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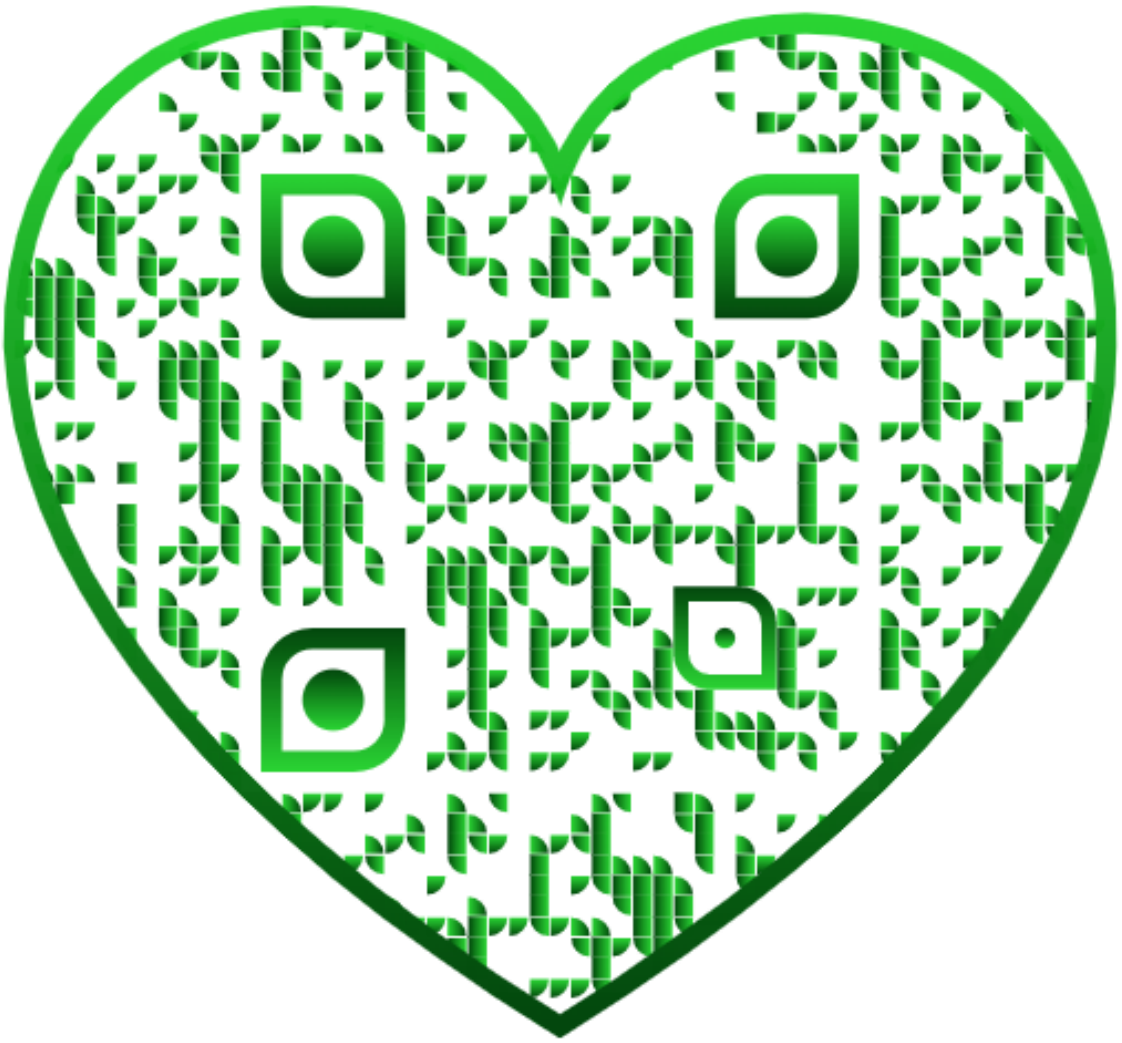

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CONTENTS

COMMUNITY

10 Your pictures, anecdotes, questions, tips, gear, and feedback!

KEYNOTES

Hot players, news, and reviews from the keyboard world.

12 **Kristeen Young:** Powerhouse Piano for Thinking People

14 **Editors' Playlist:** CD Reviews

LESSONS

20 **5 Ways to Play Like KENNY BARRON**

24 **SYNTH SENSE Massive Pads**

30 **JAZZ TECHNIQUE Forward Motion Fingering**

ARTISTS

32 **SCOTT HOUSTON**

Mission: Make playing the piano fun and accessible for everyone. This calling has taken **Scott "the Piano Guy" Houston** from teaching a small community college workshop to winning multiple Emmy awards on PBS. We go behind the scenes of the show, and learn Scott's top tips for beginners.

36 **KICK IT LIKE MULE**

Gov't Mule, that is. Keyboardist **Danny Louis** shows us precise techniques for getting complex rhythmic effects out of **Line 6** delays and stompboxes.

SOLUTIONS

40 **GIGS** Why Keyboardists Can and Should **DJ**

44 **DANCE** Exotic **Pitch Swoop** Effects

46 **PRODUCERS' ROUNDTABLE** **Rhythmic Support** in Electronic Music

GEAR

16 **NEW GEAR**

48 **Roland** JUPITER-80

54 **Arturia** SPARK

60 **Ocean Beach Digital** DB-1 SERIES II DRAWBARS

62 **Mobile App of the Month** FAIRLIGHT PRO

64 **Madrona Labs** AALTO

TIME MACHINE

74 Synths that might as well have been the **Jupiter-8 reborn**.

Page 54

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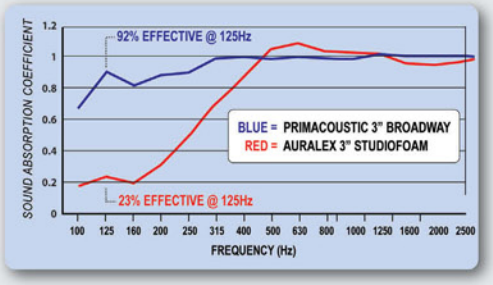

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EDITOR: Stephen Fortner
sfortner@musicplayer.com
MANAGING EDITOR: Debbie Greenberg
dgreenberg@musicplayer.com
ASSISTANT EDITOR: Lori Kennedy
lkennedy@musicplayer.com
EDITORS AT LARGE: Craig Anderton, Jon Regen
SENIOR CORRESPONDENTS: Jim Aikin, Tom Brislin, Ed Coury, Michael Gallant, Robbie Gennet, Scott Healy, Peter Kirn, Mike McKnight, Dominic Milano, Franics Preve, Ernie Rideout, Mitchell Sigman

ART DIRECTOR: Patrick Wong
pwong@musicplayer.com
MUSIC COPYIST: Matt Beck
PRODUCTION MANAGER: Amy Santana

GROUP PUBLISHER: Joe Perry
jperry@musicplayer.com, 770.343.9978
ADVERTISING DIRECTOR, NORTHWEST, MIDWEST, & NEW BUSINESS DEV.: Greg Sutton
gsutton@musicplayer.com, 925.425.9967
ADVERTISING DIRECTOR, SOUTHWEST:
Albert Margolis
amargolis@musicplayer.com, 949.582.2753
ADVERTISING DIRECTOR, EAST COAST & EUROPE:
Jeff Donnenwerth
jdonnenwerth@musicplayer.com, 770.643.1425
SPECIALTY SALES ASSOCIATE, NORTH:
Contessa Abono
cabono@musicplayer.com, 650.238.0296
SPECIALTY SALES ASSOCIATE, SOUTH:
Donovan Boyle
dboyle@musicplayer.com, 650.238.0325

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From the Editor

A few weeks ago, at the height of the Jupiter-80 rumors and information leaks in the blogosphere, Roland product manager Vince LaDuca told me, "Man, this has been our craziest launch ever!" I have to agree—reviewing the Jupiter-80 in this issue feels like the welcome end of a long, strange trip. At the heart of all the crazy has been the issue of whether "Jupiter" should appear on anything other than a strictly virtual analog (or even real analog) synth. In various places, I've explained Roland's position that since the name originally referred to the flagship instrument that could be made using the technology of the day, using it for essentially that purpose again is logical and consistent. Critics have countered that the original Jupiter-8 has given the name a life of its own and that Roland should put public perception above internal history. Throughout the spirited and sometimes vitriolic debate about this, I've been repeatedly asked what *I* think, so here it is. Sort of.

In the U.S., mainstream marketers perceive "consumers" as being about style over substance. For example, the Lexus brand exists only in North America, because presumably no well-heeled buyer is going to pay $80,000 for a Toyota. Also, Europe is full of high-MPG, low-emissions BMW and Mercedes models the carmakers don't export to the U.S. for fear of undermining their luxury image here. In a nutshell, I think that getting too polar on either side of the "great Jupiter debate" plays into this stereotype, which is something we can all do without.

In fact, I don't believe most Americans are as shallow as the average ad agency kid with a degree in communications and dreams of a tricked-out M3 (Bimmer, not Korg) bets we are. And I *know* that *Keyboard* readers aren't. In my interactions with all the companies that make music gear, I've found that *they* know this, too. So while Roland made a naming decision a different company might have made differently (Dave Smith calling his all-analog axe the Prophet '08 and his analog/digital hybrid by an entirely new name, Evolver, comes to mind), they're not trying to put anything over on anyone. They're as aware as you and I that, at the end of the day, sound and playability makes or breaks a new synth. To delve into those issues with me, turn to page 48.

Stephen Fortner

DIG MY RIG

I'm currently studying industrial design at California State University, Long Beach. The original idea for the Ambidextro keytar was formed in a conversation with my friend: "So, if a piano can be played with both hands, then a keytar should be, too." It's also a solution to the bulkiness of regular keytars. With the double-sided keys, you have double the amount of the notes to play with the same number of keys. Right now the Ambidextro is only a concept. I built the prototype myself—all the mechanisms work but there's no electronics, since a circuit board for this keytar will have to be custom-made. Yes, you might need to learn a new playing technique, but this problem could also be solved by reversing the circuit board logic for the "backwards" set of key sensors. There are still many areas to be explored.

Wen-Chang Liang, Long Beach, CA, via email

We contacted Wen-Chang after learning about his project via the music technology blog Synthtopia.com, so hats off to them for the scoop. See more of the Ambidextro at coroflot.com/wenjamin. —Ed.

The Poll

What would be your desert island keyboard?

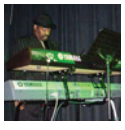
Acoustic grand piano	25%
Korg Kronos or OASYS	21%
Yamaha Motif XF with loaded Flash memory	14%
Fully expanded Kurweil K2600 or PC3K	10%
Hammond B-3 organ	10%
Roland Fantom-G	8%
Nord Stage 2	6%
Classic analog synth	6%

FACEBOOK COURT OF OPINION

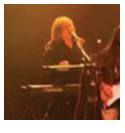
Q: What's more important to you when buying gear? Getting the lowest price, or the salesperson's knowledge and attitude?

Reece Bain, Jr.: I'm mostly self-educating, drawing from resources and friends I trust. But I also want a salesperson to know at least a little about what he or she is talking about.

Mitch Towne: Lowest price, without a doubt. Internet forums have made salespeople just about obsolete, in my opinion. Any info I need on a piece of gear, I can find online, as well as a variety of differing viewpoints and real-life experiences.

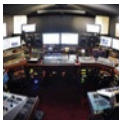


Warfus Powell, Jr.: I worked at a music store, and it does help to have someone who knows what he or she is talking about. When you live in a small town, it's also nice to keep the money in the community.

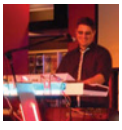


Ron Cholfin: Both are important, but I do a lot of research first. When I go into the store, it's usually with questions–I want my salesperson to know more about the gear than I do. *Then* I want the killer deal!

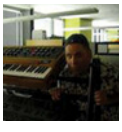
Robert Graham: For bigger investments, I know more or as much [as the salesperson]. For smaller stuff, which is more of a spur-of-the-moment buy, I get good advice. I always buy locally so I get killer deals.



Roger Dale Huff: I don't need a salesperson trying to sell me on his or her idea of what I should buy simply because the store manager needs to push a particular product line out the door.

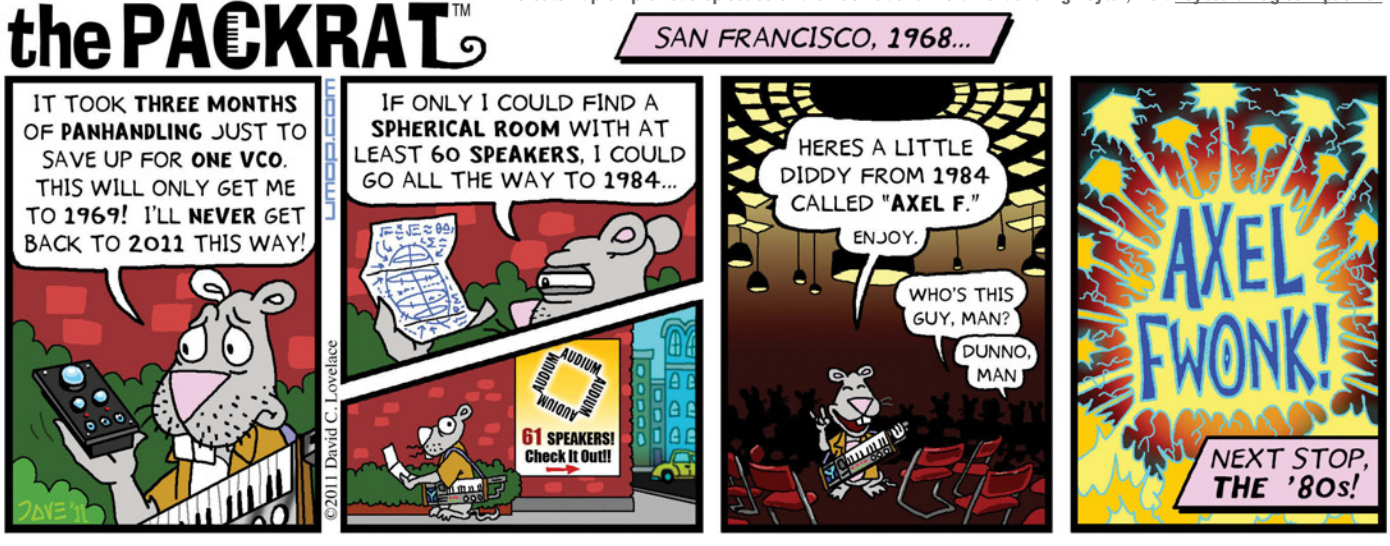


Joe Cresanti: I'm disappointed when I know more about a new product than the salesperson. Then I go over to the magazine rack, pull the latest *Keyboard*, and tell them to study up!



Robbie Ryan: It's important to have a relationship with a salesperson. Reason being, you can read all the hype, read reviews in *Keyboard*, watch videos on the Internet, and demo an instrument in a store. However, a good salesperson can tell you who's buying what for what reason, what's getting returned, and what other musicians are saying in the shop. They're the unsung heroes of the M.I. biz.

To catch up on previous episodes of the Packrat and his time-traveling keytar, visit keyboardmag.com/packrat.



KEYNOTES

CONTESSA ABONO

KRISTEEN YOUNG

Powerhouse Piano for Thinking People

V The Volcanic
(Tony Visconti Productions 2011)

Kristeen Young is that rare talent whose very existence proves how inadequate the tools of music journalism are for describing a true original. I'm talking in particular about the tired tactic of comparing artists to other artists and then doing a clever backpedal about the actual "sounds like" factor. As in, "If Kate Bush and David Bowie had a baby and hired Trent Reznor as a sitter, you *still* wouldn't have Kristeen Young." Better to note that her operatic voice can jump multiple octaves with absolute precision and haunting tremolo, that her piano playing can swing from thunderous and dissonant to delicate and lyrical on a dime, and that she dishes out an alarming density of melodies that *will* get stuck in your head. In fact, qualities like these attracted the attention of the Thin White Duke himself, with whom Young sang the duet "Saviour." In 2007, she recorded vocals on two Morrissey tracks. Produced by Bowie alumnus Tony Visconti, her latest album *V The Volcanic* draws as much on funk and electro as it does on art-rock, with each song written from the point of view of a different film character that inspires Young. That these range from Violet Bick in *It's a Wonderful Life* to the replicant Pris from *Blade Runner* further speaks to Young's songwriting breadth. Look—just go get the record. And see a live show if you can. No matter how much you think you've heard it all before, Kristeen Young will make you believe in discovering new music again.

You use dissonance as a musical statement more effectively than anyone I've heard. Yet your pedal-down glissandi, "off" notes, and other moves are precise and never overpower the arrangement. How did you perfect this technique?

Practice. Trial and Error. Years of humiliation and pain. I've always been drawn to dissonance, but to get the *percentages* of it right is a lifelong pursuit. I love atonality, but too much of it doesn't even sound like dissonance anymore, and leaves you with nothing to hang your hat on emotionally. Melody has to fulfill that role.

What degree of classical training is in your background, and how does it affect your arrangements?

I've taken a lesson or two. Listening to music from centuries ago is inspiring because of the complexity. I'm not sure human beings will ever be capable of this again, as we have too many distractions now—we no longer have that kind of focus. Other than listening and being inspired, I don't think people should become mired in *only* performing music from a hundred or more years ago. I think it's a starting place and can give you a firm foundation of what's possible. Then you should go your own way. That's progress.

Live, you use the Roland XP-80 for piano sounds when a lot of newer keyboards are available. Why?

I've bought newer keyboards and I always end up returning them to the store because I don't like the piano sound for my style. Of course the sound can be altered—*but*—it never sounds as good as the full and biting attack of the XP-80's "Bright Piano" patch. It's a pretty strong place to start and is the most assaultive rock piano sound I've found.

What keyboards were used on *V The Volcanic*, and can you describe two or three of your favorite "keyboard moments" in songs—in terms of a chord progression, riff, sonic aspect, or anything you're particularly proud of because it's cool or unique?

I only used the XP-80. If you'd asked me about "keyboard moments" on my last album, *Music For Strippers, Hookers, & the Odd On-Looker*, I could've easily answered. A lot of that album features the playing style we're discussing here: the bashing accents, dissonance, glissandi, wall of assaulting pianos. But this album, musically, is all about combinations of styles and sounds. I'll leave it up to others to decide whether it's cool or unique. I'd never know.

What keyboard-playing performer do you find it most flattering to be compared to?

Mike Garson is the only other pianist I can think of who uses angularity and dissonance in a rock context, and he does it to perfection. He doesn't bash like I do, but he doesn't have to because he's a virtuoso. I'm more of an emotional player and that part of me is more influenced by Jerry Lee Lewis and Little Richard, even Chico Marx! There's a piano solo in my song "You Must Love Me," and when I play it I'm almost always thinking of Chico's piano performance in the film *A Day at the Races*.

How about the most annoying comparison?

It doesn't just annoy me, it *angers* me when I'm compared to other pianists with whom I have nothing in common other than playing the piano and female anatomy. Yet our actual playing styles are worlds apart.

What's your favorite thing you learned from working with Tony Visconti?

I've always added a touch of distortion to my live piano sound, just to thicken it, but many times this would sound shrill in certain venues. Tony suggested I get a small stage mixer to have more control of the ratio of clean to distorted piano and the EQ. He even made a wooden bracket for the mixer with a metal thread underneath that connects to any mic stand. Adding the mixer did wonders for my live sound. Now, when you stand in the audience, the effect is all encompassing, like a piano cannon—I mean the weapon!

What usually comes first when you're composing: lyrics, melody, chord progression, or rhythm?

They all take turns—which is surprisingly polite of them.

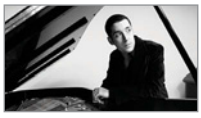
In the bio on your website, you say that during the past couple of years you often felt like "food for thieves."

I was speaking mainly of my visual presentation. The world in general seems to care more about visuals than the aural experience at this time. But I don't even understand the concept of stealing other people's styles and material. It's like admitting you can't come up with your own idea. Wouldn't you feel like a loser . . . in those solitary, ceiling-staring moments at 3 A.M.?

What gear is essential to your home studio?

I don't have a home studio, thank the gods. And if I did, I wouldn't subject your readers to one more person so pleased with himself or herself for sitting alone in a room and masturbating with their electronic toys. I think it's sad that a lot of musical environments have become so isolationist. To me, that's not what's exciting about music or life. I'm much more stimulated when there's someone else involved. Stephen Fortner

EDITORS' PLAYLIST



Jon Regen

BILL KING'S RHYTHM EXPRESS

Beat Street

Pianist and composer Bill King has been cultivating a quiet storm in his native Canada, leading a crack band that evinces a sonorous blend of Latin, jazz, funk, and soul. His latest, *Beat Street*, finds the Toronto multi-instrumentalist on piano, Hammond organ, and synthesizer on a varied set of originals that pull from a wide range of infectious influences. Check out the scintillating Latin opener "Rhythm Express" for just one recorded example of what King and Co. are capable of. (7 Arts Entertainment | cdbaby.com/cd/bkrhythmexpress)

BRIAN CULBERTSON

XII

If Culberston's latest release doesn't get you grooving, seek medical attention immediately! The acclaimed multi-instrumentalist, composer, and producer serves up an R&B-flavored, star-studded affair that features guest appearances by musical luminaries like Kenny Lattimore, Faith Evans, and Brian McKnight. Check out Culbertson's cascading keyboard work on the infectious track "Don't U Know Me by Now" for just a taste of the album's sonic treats. (Verve | brianculbertson.com)

DAN TEPFER TRIO

Five Pedals Deep

Jazz pianist and composer Dan Tepfer pushes the piano trio into new tonal territory on his latest release *Five Pedals Deep*. The winner of the 2007 American Pianists Association Cole Porter Fellowship in Jazz, Tepfer draws from a wide sonic swath of influences, from classical to bebop and beyond. Check out his majestically modulating original "All I Heard Was Nothing" for a taste of his personal pianistic perspective. (Sunnyside | dantepfer.com)

ELIANE ELIAS

Light My Fire

Brazilian piano prodigy Eliane Elias has shined in a myriad of fertile musical formats since bursting onto the jazz scene with the fusion supergroup Steps Ahead back in 1983. On *Light My Fire*, Elias excels as both prodding pianist and heartfelt vocalist, on a varied set that celebrates her affinity for pop, jazz, and Brazilian song. Check out "Turn to Me (Samba Maracatu)," with seductive vocal and guitar accompaniment by famed countrymen Gilberto Gil and Romero Lubambo. Recommended. (Concord Picante | elianeelias.com)

GABE DIXON

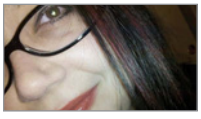
One Spark

Southern-spiced Gabe Dixon returns with potent pop panache on *One Spark*. Featuring lush '70s-era arrangements that recall the best of bands like Fleetwood Mac and Wings, the album also sports a reimagined, guitar-laden sound that pushes Dixon beyond his previous piano trio work. Cameos by Alison Krauss and Starsailor's James Walsh add sonic weight, but Dixon's soaring voice and songwriting skill still take center stage. Listen to "Perpetual Motion" for another example of this triple threat in musical motion. (Fantasy | gabedixon.com)

FRED HERSCH

Alone at the Vanguard

To hear Fred Hersch play is to learn by osmosis what "touch" on the piano is all about. In this sublime live recording—documenting his second week-long residency at New York's famed Village Vanguard—Hersch gives what amounts to a recorded master class in aural eloquence. From a tender reading of the famed standard "In the Wee Small Hours of the Morning" to affecting, originals like "Echoes," the album stands as continued proof that Hersch is in a musical league all his own. (Palmetto Records | fredhersch.com)



Lori Kennedy

THE COOL KIDS

When Fish Ride Bicycles

The Cool Kids (Chuck Inglish and Mikey Rocks) expertly deliver thick, subwoofer-destroying 808 beats; '70s soul-funk piano mixed with '80s keys; and super-tight rhymes on their first full-length album. They're young, but they've got an old-soul hip-hop style, *à la* Run-DMC and Eric B. & Rakim. Guests include Ghostface and Pharrell Williams, the latter of which produces a track. Inglish's production is incredibly slick, on par with that of the Neptunes. Standouts: "Boomin'" and "Rush Hour Traffic." Superb. (Green Label Sound | coolxkids.com)

S.C.U.M

Again Into Eyes

It's the wall of guitar and keyboard sounds that makes shoegaze—or, rather, "nu-gaze"—so seductive. If the Psychedelic Furs, Slowdive, the Kills, and Interpol got busy in the back seat of a 1986 Honda Civic, S.C.U.M would be the resulting love child. The soaring synths and droning guitar riffs of "Faith Unfolds" make me want to shift from side to side while staring at my feet, making an occasional head-nod—and it feels *really* good. An addictive debut. (Mute | scum1968.com)

SEBASTIAN

Total

Break out the platform shoes and glittery shirts because it's time to get funky and fresh on the dancefloor. French DJ and producer SebastiAn has busted out a lo-fi funk extravaganza with his debut *Total*. The album is loaded with guests—M.I.A., Mayer Hawthorne, and Gaspard Augé of Justice—and the production is excellent. "Love in Motion" featuring Mayer Hawthorne has tons of handclaps and deep, funky bass—it kind of sounds like Justin Timberlake time-traveled to the '70s to cut this track. (Ed Banger Records | myspace.com/0sebastian0)

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by Lori Kennedy

ALESIS CADENZA

Concept: Console digital piano with hammer-action keyboard.

Big deal: Eight stereo sounds including grand, upright, EP, strings, and organ. CD or MP3 connection through 1/8" stereo input lets you play along with favorite songs. Splittable keyboard and included sustain pedal. Can connect to iPad via Apple USB adapter.

We think: At this price, Alesis could have a hit on their hands in the home digital piano market.

List: $699 | Aprox. street: $500 | alesis.com/cadenza

IK MULTIMEDIA iRIG MIDI

Concept: Compact CoreMIDI interface for iOS that connects any MIDI device to your iPhone, iPod Touch, or iPad.

Big deal: Three MIDI ports. External MIDI control for sound modules, DAWs, and lighting systems. Micro USB port keeps you powered during long sessions. Includes mobile version of SampleTank.

We think: Enough iOS MIDI interfaces are turning up that it's beginning to feel like roundup time. Stay tuned. . . .

$69.99 | irigmidi.com

AKAI EIE PRO

Concept: Audio/MIDI interface with USB hub.

Big deal: Four inputs on XLR combo jacks. Phantom power switchable in pairs. Records at 24 bits and sample rates of 44.1–96 kHz. Three USB type A ports in addition to computer (type B) connection. Cool VU meters.

We think: We love the retro look and the extra USB ports to connect MIDI controllers, copy protection keys, and the like. We'll let you know about the sound when we try one.

$TBD | akaipro.com/eiepro

YAMAHA PSR-S650

Concept: Portable, personal arranger keyboard.

Big deal: Can load samples for voices and drums, and make them available from Flash memory without reloading on power-up. Offers MegaVoice (articulation) enhanced Styles found on higher-end Yamaha arrangers. Nine non-Western scales.

We think: There's a good deal of musical muscle here, and you can take it anywhere.

$649 | usa.yamaha.com

See press releases about new gear as soon as we receive them at keyboardmag.com/news.

PRESONUS STUDIOLIVE 16.0.2

Concept: Digital mixer for live performance or recording.
Big deal: Compact. Eight mono input channels and four stereo channels; 12 Class-A solid-state mic preamps. Built-in DSP effects. Remote control via iPad.
We think: The bigger StudioLive mixers sound great and are the easiest digital mixers to use we know. Now they have a little brother for smaller studios and combos.
List: $1,599 | Approx. street: $1,299 | presonus.com

BOSS BR-80

Concept: Micro-size multitrack recorder—lots of power in your pocket.
Big deal: Eight tracks, each with eight virtual take tracks. Built-in dual condenser mics, plus eBand mode for learning licks, play-along, or onstage backing tracks. Includes 1GB SD card but supports cards up to 32GB. Bundled with Cakewalk Sonar X1 LE.
We think: We let our summer intern have first crack at it. He disappeared, then showed up at the end of the day and said, "This is the coolest freakin' thing ever."
$299 | bossus.com

iZOTOPE T-PAIN EFFECT

Concept: Collection of three music-making tools: the T-Pain Engine, the T-Pain Effect, and iDrum: T-Pain Edition, all of which bring the Pain to your track.
Big deal: Make beats, record vocals, arrange patterns, and upload tracks easily to SoundCloud. Add subtle or intentionally exaggerated pitch correction, just like T-Pain. Play the virtual drum machine preloaded with hundreds of sounds.
We think: However you feel about T-Pain or his vocals, this collection is inexpensive, intuitive, and . . . well . . . hella fun.
$99 | izotope.com/tpain

MEINL PERCUSSION FX-10

Concept: Sampling drum pedal—a whole percussion kit in a box.
Big deal: Ten sound options, including kick and cowbell. Stereo or mono output.
We think: "More cowbell" with the touch of a toe? Yes, please.
List: $335 | Approx. street: $199.99 | meinlpercussion.com

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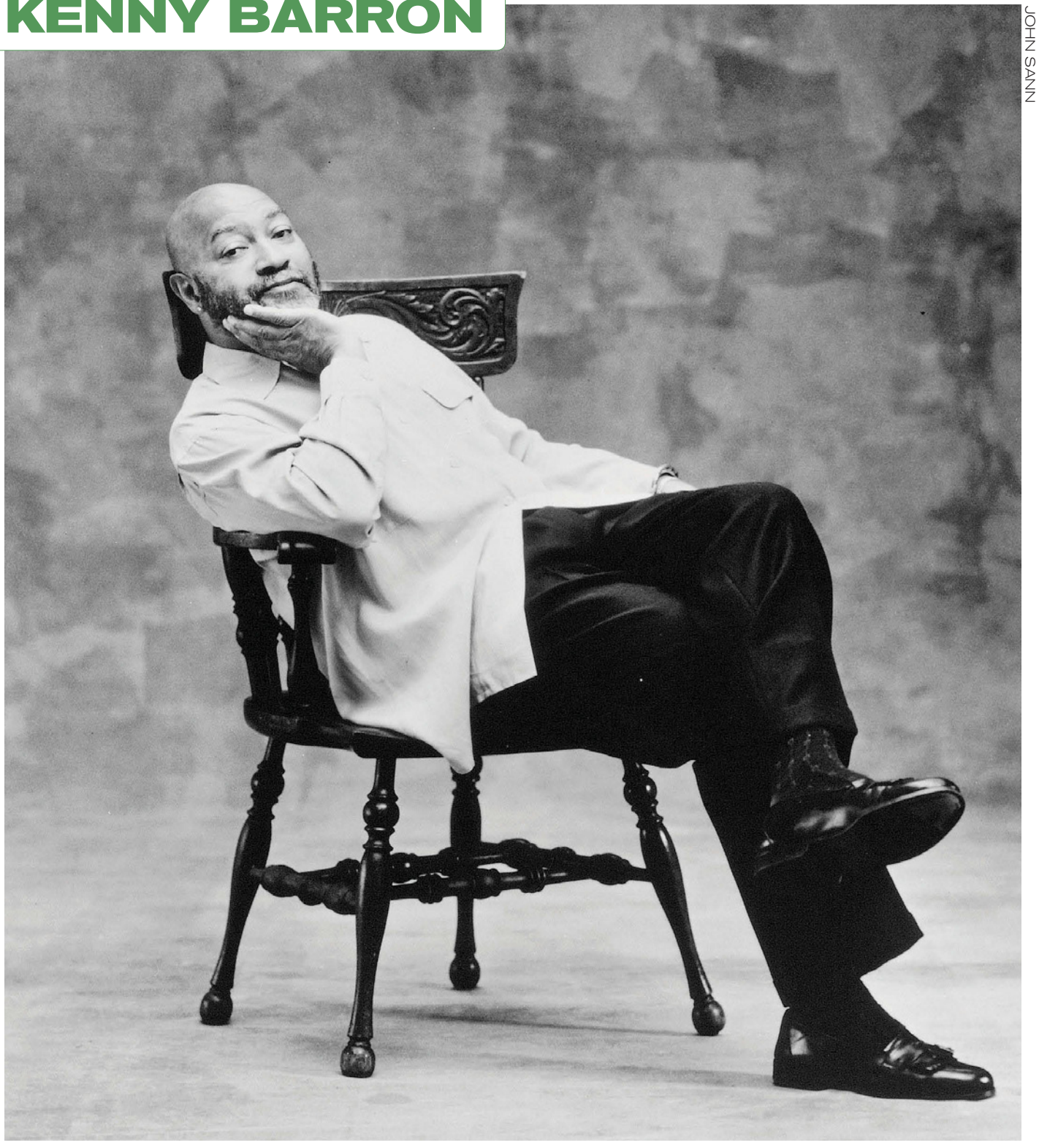
5 Ways To Play Like KENNY BARRON



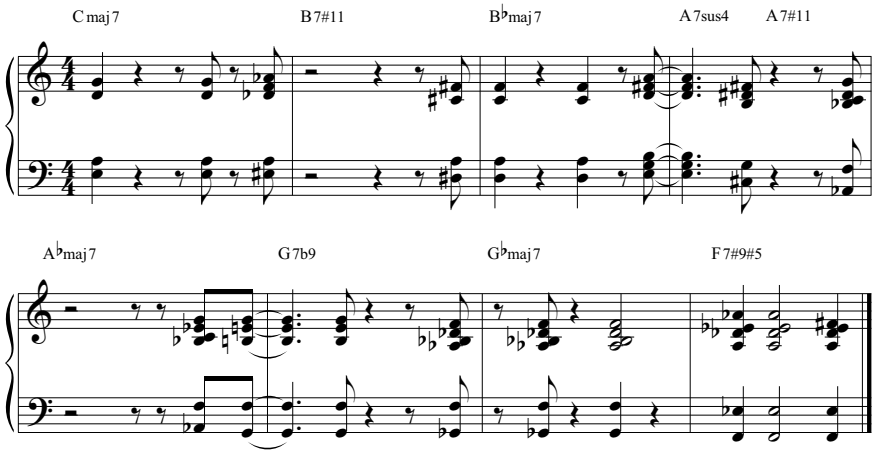
JOHN SANN

Kenny Barron is a true master of jazz piano. He paid his dues as a sideman for years before striking out on his own, where today he remains at the very forefront of modern jazz. From his empathetic work with Sphere, a mainstream quartet he started in the 1980s as a Thelonious Monk repertory ensemble, to his storied work as a leader in his own right, Barron's style is classic, tasteful, and often surprising. He's a master of both traditional jazz (which has made him extremely sought after as an accompanist), as well as more modern, exploratory genres. Check out Barron's acclaimed albums *Scratch* and *What If?* for an example of his stylistic bravado. Barron is an accomplished composer, (authoring popular jazz tunes like "Voyage" and "Phantoms") and educator as well, having taught Kenny Kirkland, Aaron Parks, and *Keyboard*'s Jon Regen, among countless others.

Here are five characteristics of Kenny Barron's unique pianistic persona. George Colligan

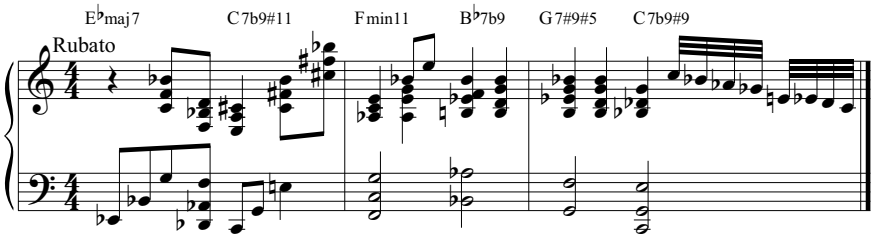
1. Comping

Ex. 1 is an example of Kenny Barron's fluid comping style. As one of the most in-demand accompanists in jazz, Barron is known the world over for his sympathetic piano comping. Barron doesn't just state a song's given chord progression—he fuses modern chord voicings with rhythmic punctuations to create a true musical dialogue on the piano. Note how his comping is conversational in style, as if he is truly *conversing* with both the soloist and rhythm section simultaneously.

Ex. 1

2. Solo and Ballad Piano

Ex. 2 illustrates how Barron masterfully marries dense harmonies, passing bass tones, and inventive voice leading to build rich passages for solo and ballad piano playing. Barron's playing is all about *balance*, with improvisational and harmonic excitement always anchored by a rich piano sound and an even rhythmic articulation. This is just one example of why Barron is known for having some of the best timing in the business.

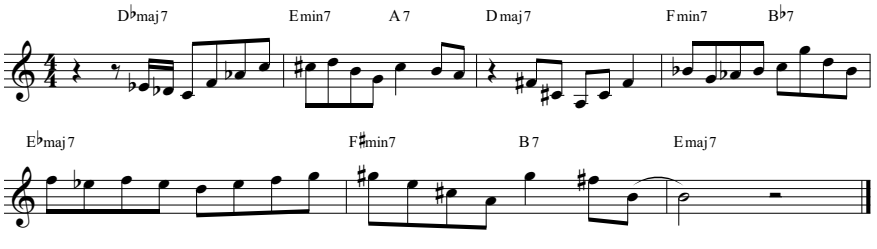
Ex. 2



3. Improvised Bebop Lines

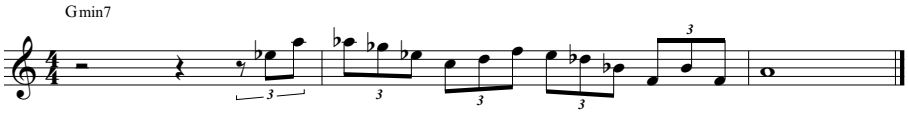
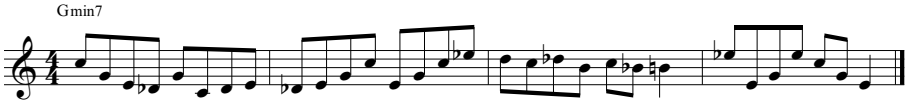
Barron's horn-like melodic lines often begin with bebop hallmarks. His improvisations brim with both creative combustion and harmonic accuracy. Notice how in **Ex. 3**, Barron's lines bounce with fluidity while they simultaneously outline the chord progression's harmonic touch points. Many pianists cite Barron as their gateway to greater understanding of the informed, improvised line.

Ex. 3

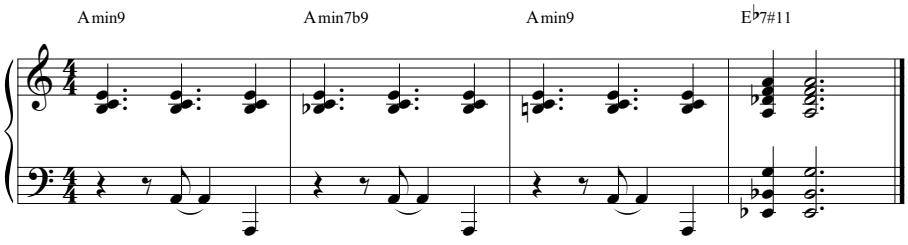
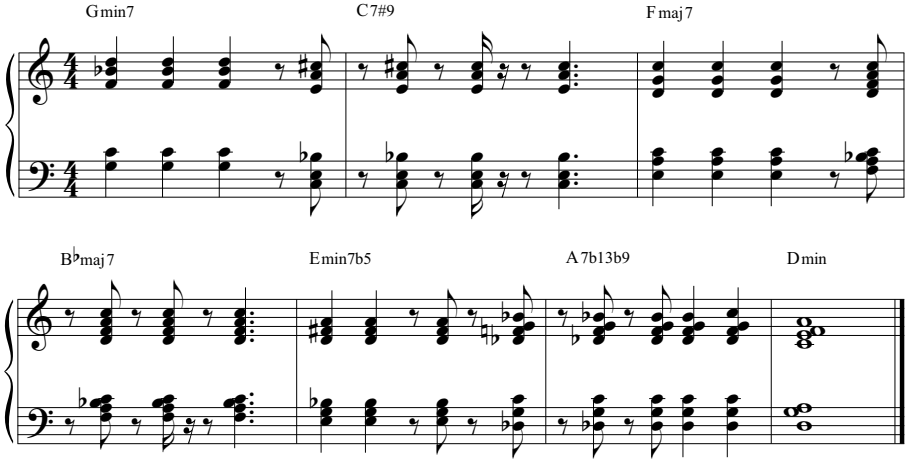


4. Harmonic Development

Barron doesn't always rest his harmonic head in the bebop and post-bop stylings in which his playing is rooted. He often journeys into more contemporary territory, creating lines that pull from the work of modern masters like Herbie Hancock and McCoy Tyner. **Ex. 4a** and **Ex. 4b** illustrate Barron's modern improvisational musings over a *G* minor seventh chord.

Ex. 4a

Ex. 4b

5. Brazilian Style

Barron's piano playing draws as much from the blistering rhythms of Brazilian music as it does from the canon of bebop. **Ex. 5a** and **Ex. 5b** show Barron's frequent use of Brazilian rhythms in both his chordal accompaniment and rhythmic conception. Check out his albums *Canta Brasil* and *Sambao* for more examples of his inclusive improvisational approach.

Ex. 5a

Ex. 5b

Pianist and composer **George Colligan** has worked with Cassandra Wilson, Buster Williams, Don Byron, Ravi Coltrane, and many other acclaimed artists. Most recently, he joined drummer Jack DeJohnette's new quintet, and released *Pride and Joy* on the Piloo label. Colligan is also Assistant Professor of Jazz Studies at Portland State University. Find out more at georgecolligan.com. Jon Regen

SOUNDCLOUD Audio examples recorded by the author.

Kenny Barron and Stan Getz play "People Time."

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MASSIVE PADS

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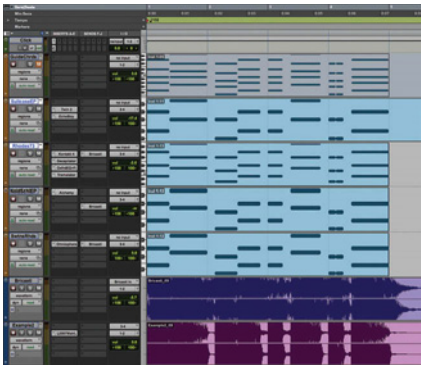
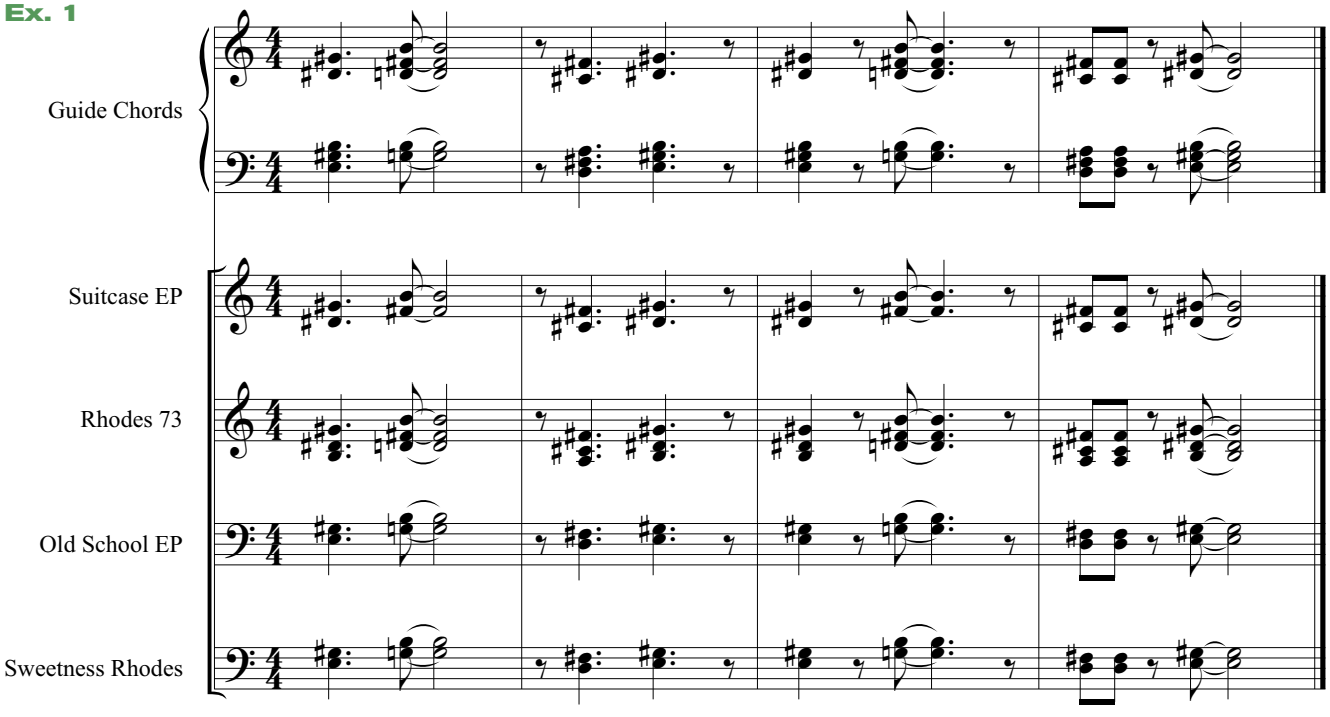
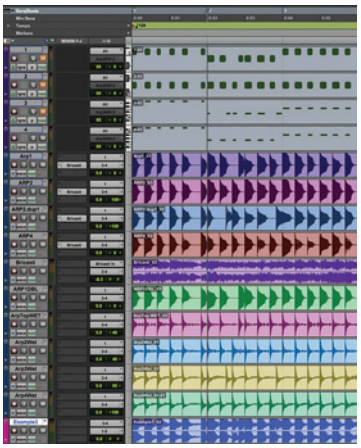
I often create massive pads by breaking up a standard pad part and breaking it up into different voices so that each one gets its own tonal treatment. The goal is to create increased musical motion while eliminating boring, blocky textures. I also like to combine vintage analog instruments with modern plug-ins to make an even stronger impact. I also create multisamples of vintage keyboards using Redmatica Autosampler, so that I always have a library of custom sounds in Kontakt format at the ready. Here are some tips and tricks to help you create your own monster pads, with music notation next to partial shots of my Pro Tools arrange window so you can see how the pads are built up. David Baron



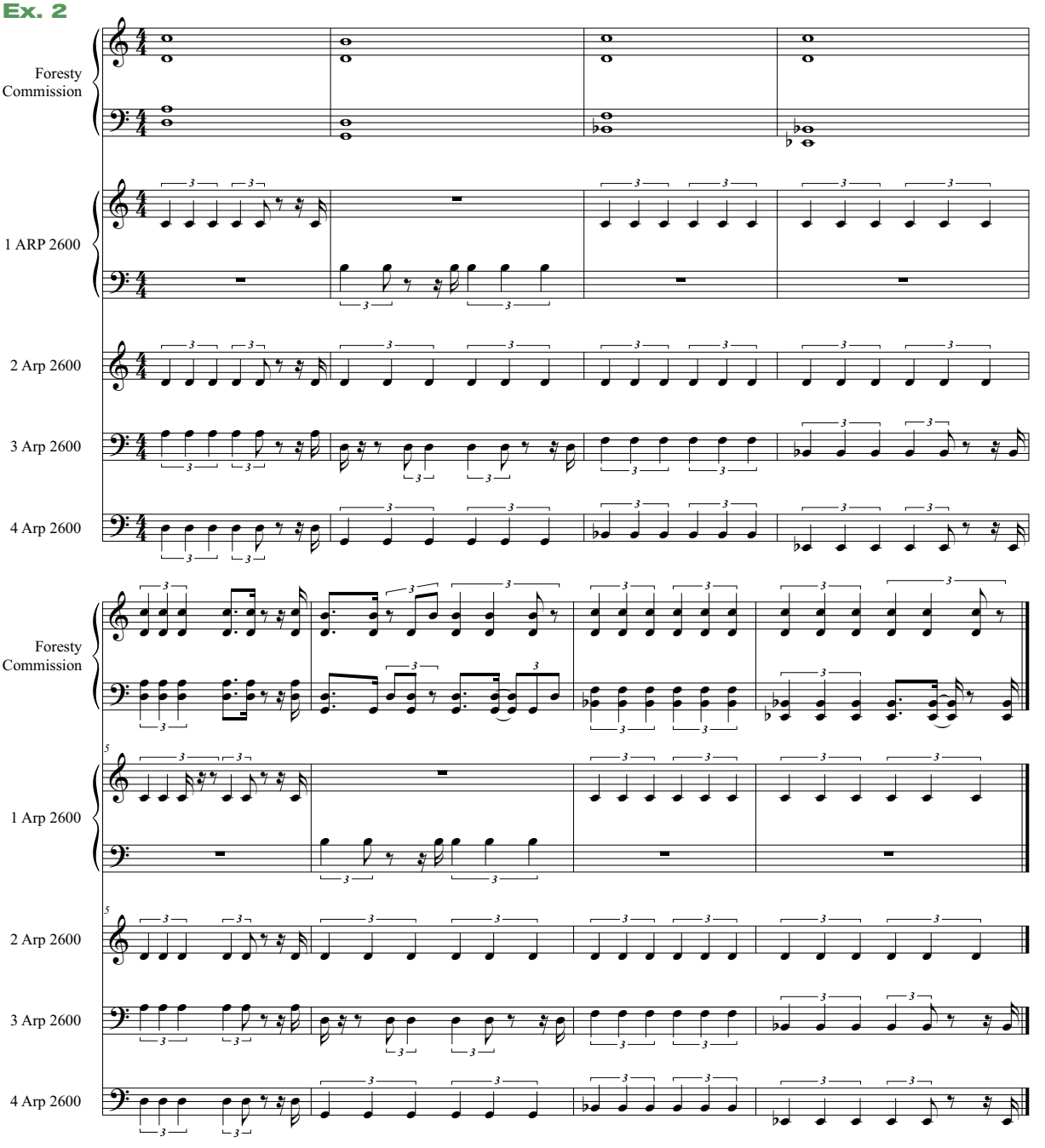
1. The Rhodes Not Taken

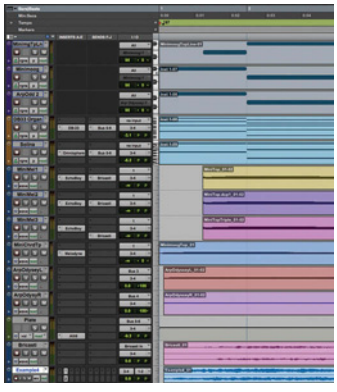
In **Ex. 1**, I build a hybrid Rhodes-style patch by splitting a five-note chord into individual components. The main ingredients are the top three notes of the chord, played on a sample from Kontakt 4. The bottom two notes of the chord are used on two different Rhodes-like patches from Spectrasonics Omnisphere ("Sweetness Rhodes") and Camel Audio Alchemy ("NoldSkool EP"). I pan these two patches hard left and right. Using three separate patches playing different notes with hard panning creates a much larger Rhodes sound than is usually possible with just a single patch. The final icing is an ambient treatment of the top two chord notes using another patch ("Suitcase EP PS") from the FabFilter Twin2 synth plug-in.

Ex. 1



2. Rhythmic Breakup

I often break up chords to make them more animated using an analog rhythmic treatment. In **Ex. 2**, the first four bars are wide-spaced chords sustained on an Alchemy patch ("Foresty Commission"). Then I play each voice through a real ARP 2600, with an analog sequencer shifting its resonant filter so the parts have a changing harmonic pattern. [*Software ARP emulations that can process external audio will also work. –Ed.*] I double each voice with a slightly more sustained voice. This method creates rhythmic patterns that can replace a guitar for a section of a song. It also helps differentiate verse from chorus.

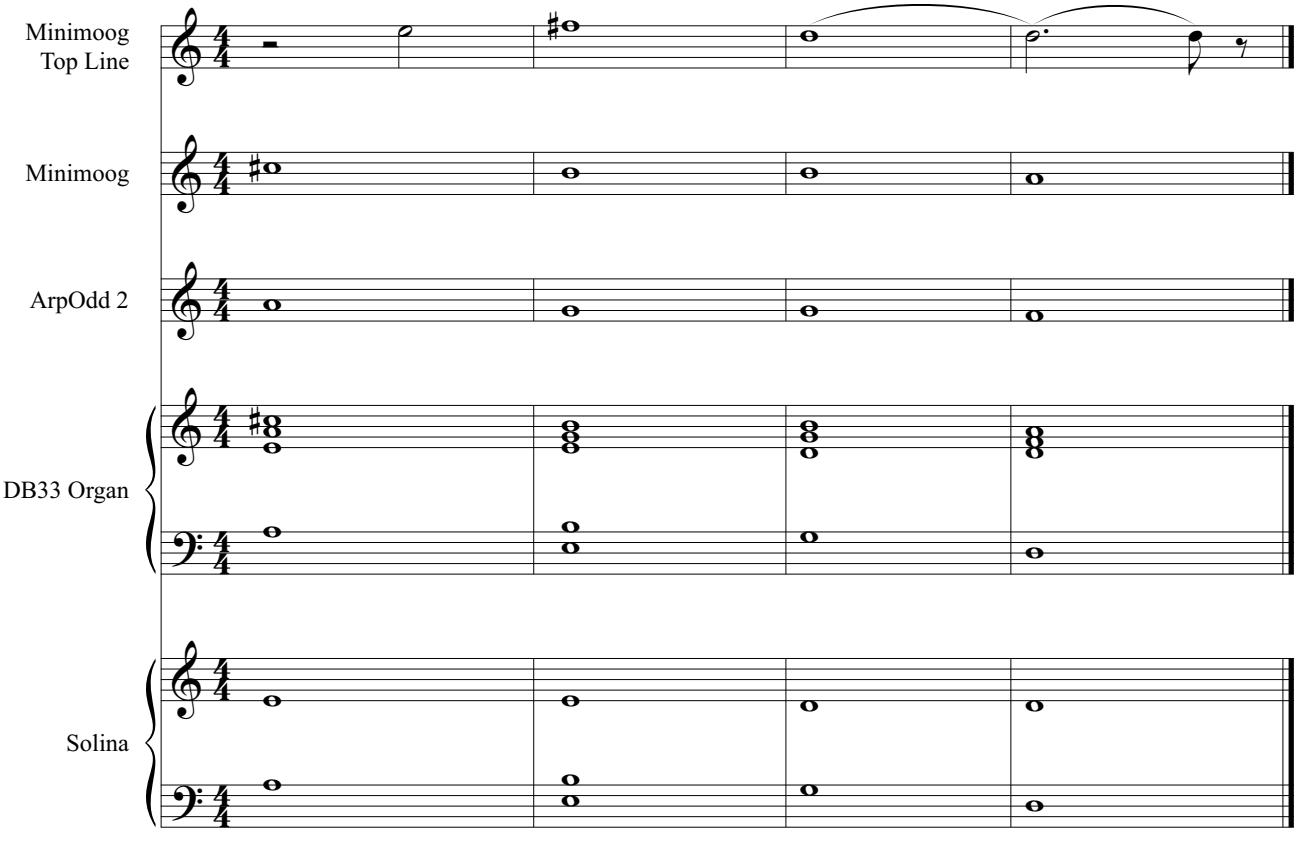
Ex. 2

Keyboardist, composer, and producer **David Baron** owns and runs Edison Music Corp. in Woodstock, New York. He has written jingles and TV theme songs, and appeared on records by Lenny Kravitz and Michael Jackson. Baron makes his own records on vintage analog gear and plays keyboards in the band Media. Find out more at edisonmusiccorp.com and twitter.com/davidbaron1111. Jon Regen



3. Lushtronica

A great deal of interest in vintage sounds comes from the lush sonics of 1970s bands like Pink Floyd. I emulate this style by using a variety of doubles on different instruments. In **Ex. 3**, I combine B-3 organ from Avid's DB-33 plug-in, ARP Solina strings from Omnisphere, and [real] ARP Odyssey and Minimoog. Add copious amounts of plate reverb and tape delay emulation and *voilà*, Lushtronica!

Ex. 3



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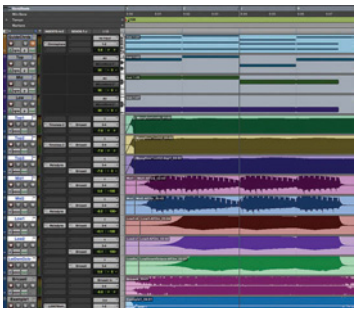
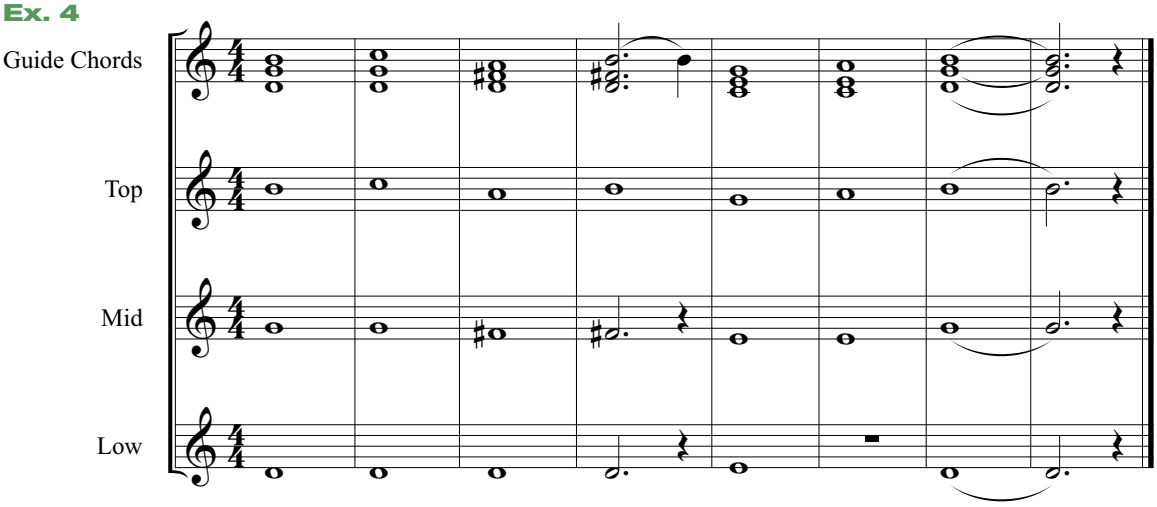


4. Close Interval Held Chords

Ex. 4 demonstrates how I break close chords up into individual components. The top voice gets a big Moog-style lead, using three Moog Oscillators set to sawtooth, and routed through a lowpass filter that opens and closes via MIDI controller info. I track all three passes separately, with each pass filter-modulated differently. The multiple passes of moving filters makes the line feel organic and alive. The second line from the top gets a slightly slower attack and square-wave modulation, which acts like a tremolo for the filter. I track this twice with slightly different tuning, pan the tracks hard left and right, and assign the modulation rate to a knob so I can "play" it as I'm tracking. The lowest line has a slower attack still so that it enters slightly later than the rest, giving it an almost orchestral feel, like French horns coming in after the orchestra plays a chord. I track this line twice—once slightly detuned and once an octave lower.

Ex. 4



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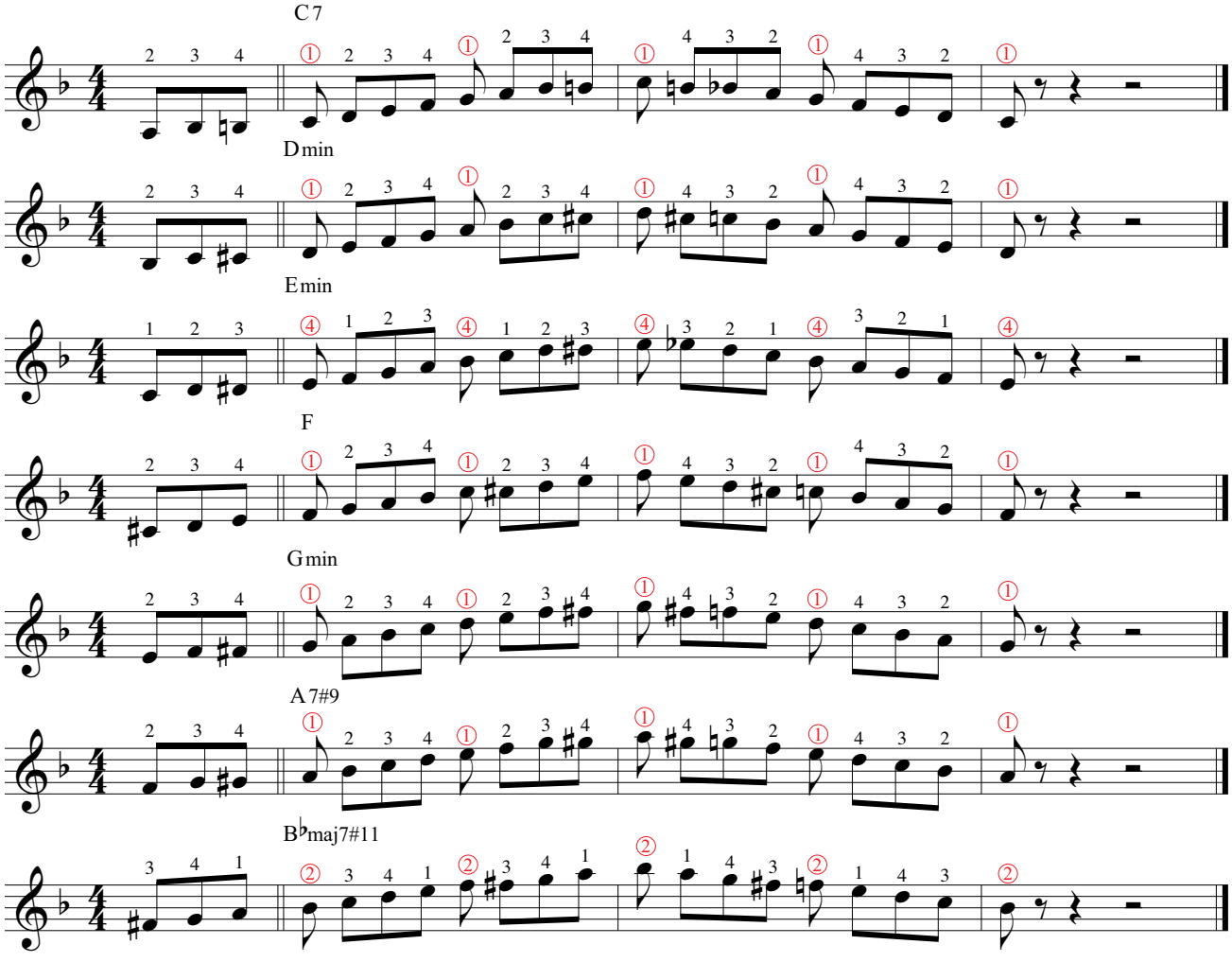
Jazz Technique

FORWARD MOTION FINGERING

As keyboardists, we have ten fingers of unequal length, and we're playing an instrument whose black and white keys are at two different heights and distances from the hand. We're trying to achieve uniformity in a situation that's in no way uniform. To compound our problem, piano fingerings tend to be asymmetrical and hard to memorize because we're applying a number system of five (the fingers on each hand) within a number system of four (a ubiquitous number of note groupings and rhythmic divisions in music).

Another realization of mine (probably considered heresy by most piano teachers) is that there's no rule that says we have to use all five fingers all the time. My alternative is to look at the five fingers as being used to form four-fingered patterns, which we'll call *sets*. The main ground rule is this: The last finger of each pattern—the *target finger*—is always predictable because it repeatedly falls on beats 1 and 3 of a bar. We'll call these the *target beats*.

For example, using four-note sets such as 1-2-3-4, 4-3-2-1, or 5-3-4-2, the first three fingers in the set help you anticipate landing the final finger on the target beat. You eventually develop a "muscle memory" of feeling your fingers in motion toward the final finger landing on the target beat. You'll actually feel them "coming up" as your hand progresses through a four-note set. Applying the rule of *no thumb on a black key* wherever possible, I discovered the trick to applying these four-fingered patterns was deciding *which white key the thumb had to be on* to achieve the finger pattern that will best set you up for playing

Dominant Seventh Bebop Scale Fingerings

the next group of notes fluidly. I've tried to apply the four-fingered rule to as many situations as possible. It doesn't work perfectly with all types of arpeggios and scale-based note groupings, but it works in enough situations to make your musical life easier.

To start you re-thinking your fingering, here are my dominant seventh bebop scale fingerings in the key of *C*. Similar fingering exercises can be found at forwardmotionpdf.com. Practice these scales starting on every beat, *e.g.*, the third finger on the fourth beat, the fourth finger on the "and" of the fourth beat, and so on. Keep your fingerings synchronized with the numbers as written. Note that the target beats (1 and 3) for these examples have target notes of the root and fifth of each scale. The basic tenet of my book *Forward Motion: From Bach to Bebop* is to think of all music as being in motion toward points in the future. Your practice routine and pursuit of fingering excellence should do the same! Hal Galper

This article and accompanying notation are abridged from Hal Galper's interactive online book Forward Motion: From Bach to Bebop. *All materials are copyright 2003-2009 by Hal Galper, and used by kind permission of Hal Galper/Amenable Music. All rights reserved. Readers are encouraged to download the book in its entirety at forwardmotionpdf.com. —Ed.*

With over 90 recordings to his credit, pianist, composer, and educator **Hal Galper** is best known for his work with Chet Baker, Cannonball Adderley, and Phil Woods, with whom he received both Grammy Awards and nominations. Galper has also won accolades from Berklee College of Music and the International Association for Jazz Education. He currently teaches at the SUNY Purchase Conservatory of Music in New York, and has a new trio album titled *E. Pluribus Unum*. Find out more at halgalper.com. Jon Regen

Audio examples by the author.

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PIANO TO THE PEOPLE!

MILES JAMES, INC.

Scott Houston on Why Everyone Can Play

by Andy LaVerne

Scott Houston, host of PBS TV's eight-time Emmy-winning show *Scott the Piano Guy*, has been called "the Pied Piper of piano." Many of his audience members own pianos, but due to obligations and schedules, might not get around to playing them much. Scott set out to change that, with a show based on making piano fun by learning to play using just a *lead sheet* in place of traditional note-for-note notation.

The show consists of four segments. In "How to Play," Scott teaches a tune while referencing a projected lead sheet. In "Tips from the Pros," Scott interviews a guest artist about their rendition of the tune. Guests demonstrate signature licks in "I Gotta Play That," then conclude with a "Just for Fun" performance. Always at the bottom of the screen is a bird's-eye view of the player's hands on the piano keyboard. Recently, I was a guest on the show, and recorded 15 segments that will be peppered into episodes over the next few seasons. After the taping, I got a chance to chat with Scott, who's as friendly and engaging off camera as he is on.

How did *Scott the Piano Guy* get started?

I had taught a non-credit community college workshop, targeted at non-musicians. I used to joke that my class was listed between Underwater Basket Weaving and Beginning Watercolor. The guy who's now my partner on the show, Ken Mills, was originally a student who had a good time. He thought it was crazy that I was doing it in front of 30 or 40 or 50 people a night when, if we could somehow get it on TV, we could reach a much broader audience. He'd been happy with and somewhat impressed by the idea that you're bringing someone off the sidelines and getting them back in the game from a musical standpoint. That's how it all started. We chose public television as the right fit because it was educational, cultural, musical, and kind of offbeat.

What's your musical background?

I was a drummer when I was growing up. I took some piano lessons when I was a little kid. Both my parents are musicians, so I had to take piano lessons—I couldn't not take piano lessons! I actually wanted to play drums very much, and both my parents were mortified. They were like, "Oh my God, we want a *musician* in the house." So, the deal was, as my dad said, "For every drum lesson you take, you have to take a piano lesson." So, for a couple of years, I went kicking and screaming to the piano lesson. I was a smokin'-hot jazz drummer for my age, and I was into all percussion. I started to learn some tunes on vibraphone, and had some piano skills, but wasn't really a pianist. Somewhere around my freshman year at college, I went to Shell Lake Jazz Camp in northern Wisconsin. It's kind of like one of Jamey Aebersold's camps. I was way ahead of where all the other drummers were, so I got to sit in in the piano class for a week. John Radd taught me and a bunch of wet-behind-the-ears youngsters that if you want to know how it really is done, you need to put away the sheet music: "This is called a lead sheet; there are chord symbols, there's a melody line, and you play the chords in your left hand and the melody in the right, and we'll take off from there. But you gotta learn how to read some chord symbols." Of course it wasn't quite that blatant, but from that moment on, that was the eye-opener. No one had ever showed me how to read a lead sheet. It's so much simpler. And I had zero interest in pursuing classical piano.

Had you ever had any classical piano training?

Just in those lessons I took as a kid. I could read music pretty well for mallet stuff. I wasn't just a dumb drummer reading drum charts. I wasn't a great sight reader, but I went through my piano lesson like anybody else, and I went through the motions of a traditional classical approach for probably two or three years. That's what kind of opened the doors for me, and I started playing more and more piano and less and less drums.

How did you start the workshops?

I said, "Well, I've got to do *something* to pay the rent," and I started doing this workshop. The genesis of it was, whenever you play piano, people come up and say one of two things. They either say, "Man, I wish I'd kept taking lessons when I was a kid," or "Man, I wish I could sit down and play a tune." What they never say is, "Man, I wish I could go take lessons once a week for the next two years so I could get to a point where I could play 'Mary Had a Little Lamb' correctly." They just wanna learn a tune. They're someone who has a piano they've been dusting for 20 years, and it makes them feel guilty to walk by it. My audience wants to come home, crack open a beer, and just play a tune.

The Piano Guy's Top 5 Beginner Tips

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1. **Practice Hanon exercises and scales in different rhythms (for example, Latin, swing, and straight eighths). Practice the way you want to play.**
2. **For improvisation, stick to one hand position of a few notes in a pentatonic scale (for example, *G, A, C,* and *D* in your right hand), and play them over blues changes, letting you focus on the melody you're creating instead of worrying whether you'll play a "wrong" note.**
3. **Understand that the notes in whatever chord you're playing are, at that moment, "safe" to play anywhere on the piano.**
4. **When playing a melodic line, make sure to get comfortable "sliding" up to notes now and then, instead of just hitting the note right on the head. This can make piano melodies sound more hip for non-classical styles.**
5. **Play more ballads, simply because they're slower and thus easier. Get the "target practice" nailed down for switching from chord to chord. This will give you more confidence that you actually sound good.**

Andy LaVerne playing on PBS' *Scott the Piano Guy*. All segments of the show include the keyboard view at the bottom, so viewers can see and duplicate what the guest plays.

It became crystal clear to me that those people were totally untouched by traditional music education. It was kind of an epiphany. The minute it's not a classically notated piece, it shifts to this other world where if you want to do it musically correctly, you have to read it from a lead sheet, and you have to turn it into your own piece of music. That's our whole world, and why we do what we do, and why the show is based like it is—all the educational stuff I do is based on that.

If someone asks you which keyboard to get, what do you recommend?

In my opinion, right or wrong, I suggest that people get as many notes as they can with weighted action. As opposed to "Hey, should I go out and buy a little portable keyboard from Wal-Mart?" You could, but in a week it's gonna go in your closet. In our style of piano teaching, from day one, if you play a *C* chord, the first thing we talk about is how if you can play it in once place, you can play it all over the keyboard. So right away, it's advantageous to have a full keyboard. Also, you don't want to get accustomed to a spring-loaded organ type of thing, and then all of a sudden find yourself at a piano and it blows you away.

As to acoustic versus digital, I love the feel and vibrations of a big acoustic grand, and it's more fun to play. But what ruins that for me is something that's not really in tune. I'll take the in-tune [of a digital piano] over the feel-good of an acoustic any day of the week. I don't think I would have said that eight or nine years ago, but digital pianos have gotten that much better.

Which digital pianos do you prefer?

Roland makes phenomenal ones. I actually played them before Roland became an underwriter for the show. They've got that Ivory Feel stuff on them, too; they're excellent instruments. I don't have a problem at all with digital; I actually play one at home. I don't have an acoustic piano at home right now. I've got a big, beautiful Roland KR-117M that they're loaning me while they underwrite the show. If you were at my house, I'd blindfold you and let you play that for a few minutes. I think you'd be surprised; it's great. And sonically it's so much more interesting because it's a grand-style cabinet, and the speaker system is full surround. The good bass sounds are coming from the right spot on the keyboard. The hammer action is graded, so the keys on top play a little bit lighter than the ones at the bottom. It's a hell of a piano.

What are a couple of favorite things *you've* learned on your own show?

You hear these Gospel players working from chord to chord to chord to chord, all the way up and down the scale, and their technique was basically to keep going from the major one to the minor two to the major one to the minor two, while changing inversions. So going up from *C*, you'd play: *C* major triad, *D* minor triad, *C* major triad in the first inversion (*C* major over *E*), then *D* minor triad in the first inversion (*D* minor over *F)*, and keep going up using all the inversions of those ttriads. When you reach the seventh (*B*), you use *B* diminished. That was a good nugget.

I had a funny one the other day with Lori Mechem, who's director of the Nashville Jazz Workshop. I've probably had three or four players on the show over the past five years give away the "Count Basie ending." Turns out that I've always done it wrong, and Lori showed me the real McCoy.

What was the difference?

Most people think the Basie ending is *C* on top, with a *D* minor third under it, going up chromatically to *D* major then *E* minor thirds. Lori, who's done a lot of Basie transcriptions (she recorded a CD of Basie's big band music reduced to a small group), hipped me to the authentic ending. With a *C* on top, you play an *A* note a minor tenth below, and then between those two notes, play *F*, then *E*♭, then *E*.

You always look like you're really getting a kick out of your guests when they strut their stuff.

Working-stiff players—the ones who are out doing dueling piano gigs their whole lives—they've got some real road-tested licks. It's like, "Hey, you want the Jerry Lee Lewis lick? This *is* it; I've got the bloody fingers to prove it." Those are just fun to hear. It's the novelty of feeling you can sit down on a piano bench next to a good player, and just have him or her say, "Check this out." I never get tired of that.

Where do you see the piano and keyboard industry heading?

I really believe the future of the keyboard industry relies on everyone getting clear on the idea that if you don't create piano players, you can't sell pianos—end of story. It's as simple as that. We have to get people excited about playing again—pianos *and* keyboards. It doesn't have to take years of tedious study and practice to make music. You can sit down, have fun, and play! I hope I'm a champion of that. k

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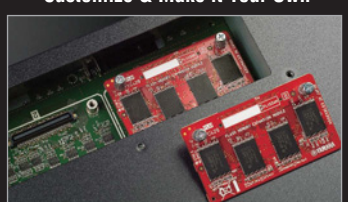

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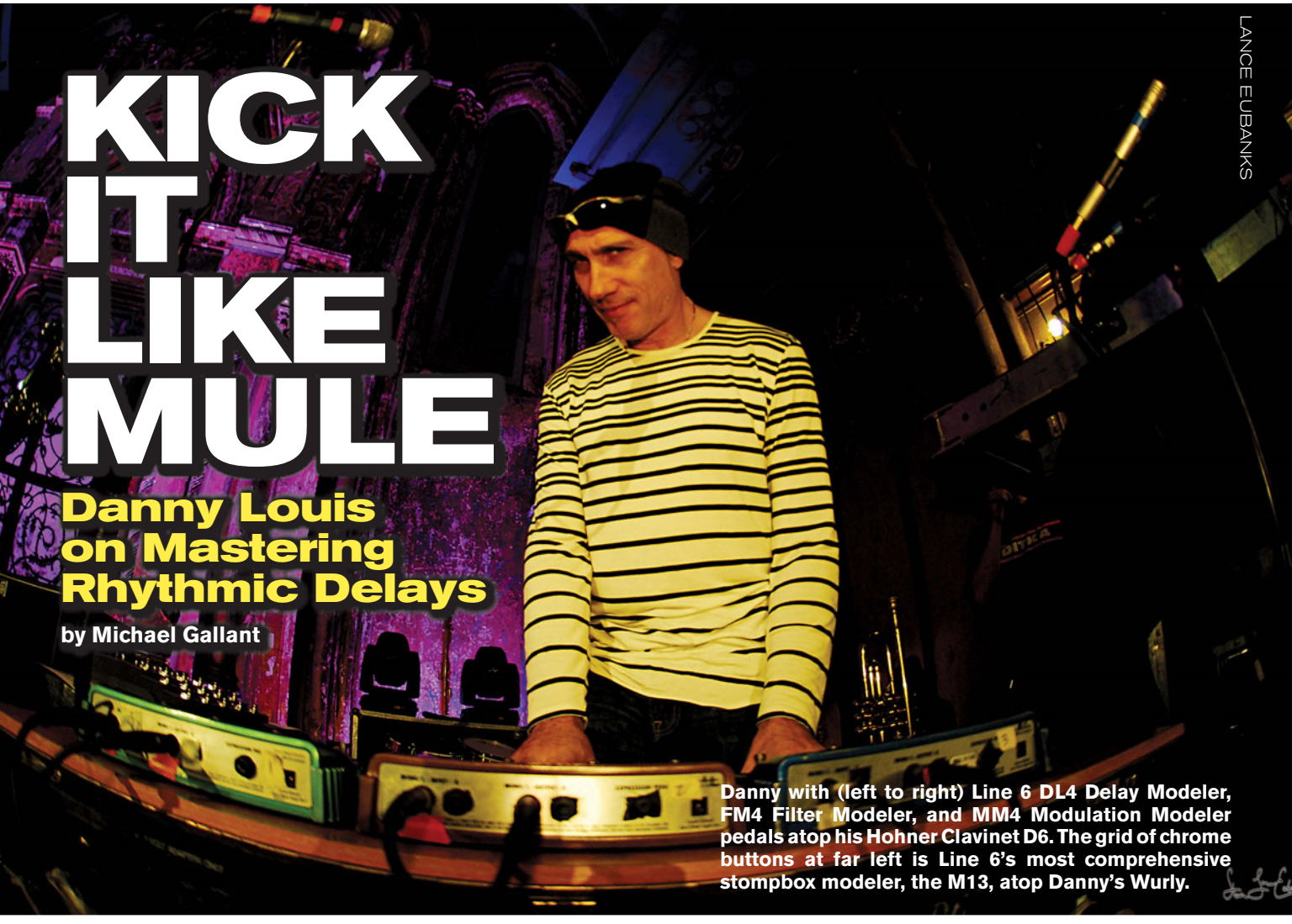
KICK IT LIKE MULE

Danny Louis on Mastering Rhythmic Delays

by Michael Gallant



LANCE EUBANKS

Danny with (left to right) Line 6 DL4 Delay Modeler, FM4 Filter Modeler, and MM4 Modulation Modeler pedals atop his Hohner Clavinet D6. The grid of chrome buttons at far left is Line 6's most comprehensive stompbox modeler, the M13, atop Danny's Wurly.

Danny Louis holds down the keyboard chair in Gov't Mule, the standard bearers of heavy southern rock. To hold his own next to Warren Haynes' searing guitar, Danny uses twin Wurlitzer electric pianos through loud guitar amps, a Clavinet, and a cranked Hammond B-3. However, Danny's tonal repertoire goes far beyond the fuzz and fire you'd expect from such a rig. In fact, many of the textures he brings to Mule's improvisation-heavy live show come from the creative use of effects pedals, adding elements of psychedelia and even electronica to the live jam. We caught up with Danny just off the road with his other band, Stockholm Syndrome, to learn his stompbox secrets.

In general, how do you use effects pedals when playing with Gov't Mule?
I try to take a normal sound that would be played on a normal part and give it a psychedelic attitude via a reverb or delay, something that sets it off in the distance and makes it seem eerie or trippy. You're still just using a regular sound, but you're adding an effect to it. I also go further and do an ambient thing where I lose the original sound in the effect. It becomes more of a wash or an environment. Then there's the rhythmic work. I predominantly use delays for that, so I'm not just working with a stagnant tone. I manually modulate it with a finger on a knob or a foot on a control pedal. There are a lot of options.

Which pedals in particular do you use?
Line 6 pedals. I might prefer vintage analog pedals and effects, but they don't travel well. The Line 6 stuff works great because the keyboards themselves sound so vintage on their own, so I don't mind having digital effects on top of that.

On top of the Clav I have their MM4 modulation unit, the FM4 filter, and the DL4 delay. Those three are for the Clav. There's an M13 Stompbox Modeler that sits on the Wurlitzer I have at stage right and use for soloing. The M13 is really versatile, so I can call up multiple effects, or multiple versions of the same effect, at once.

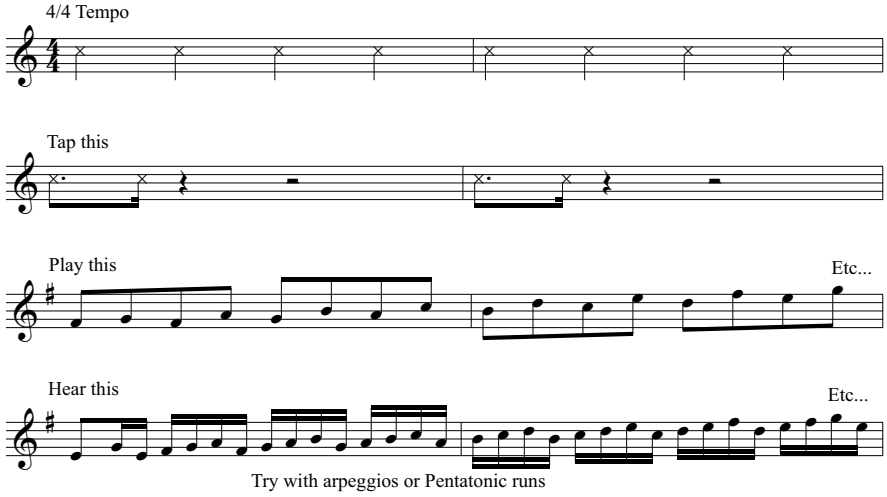
With so many effects available onboard today's synths, why use vintage keys and effects pedals?
I think the inspiration for a lot of this stuff came from jazz players who were confronting the electronic keyboard revolution in the '60s and '70s—in particular, on a lot of Miles Davis records. The approach the keyboardists took, whether it was Miles' influence or their own, made for some wacky sounds, including Herbie Hancock playing a Farfisa, if I'm not mistaken. *Bitches Brew* is full of amazing electric piano sounds. There was no shame if they were ratty. It wasn't by nature pretty music, so the sound was right for what they were doing. Our co-producer, Gordy Johnson, came to see the band before he first recorded us and one of the comments he made was, "Man, the band sounds like Miles Davis!" I got a big smile on my face because my electric piano sounds have always been informed by my love of that stuff.

In the rock world, I didn't find a lot of that sort of texture. A B-3 sounded like a B-3, with the exception of Jon Lord and Brian Auger.

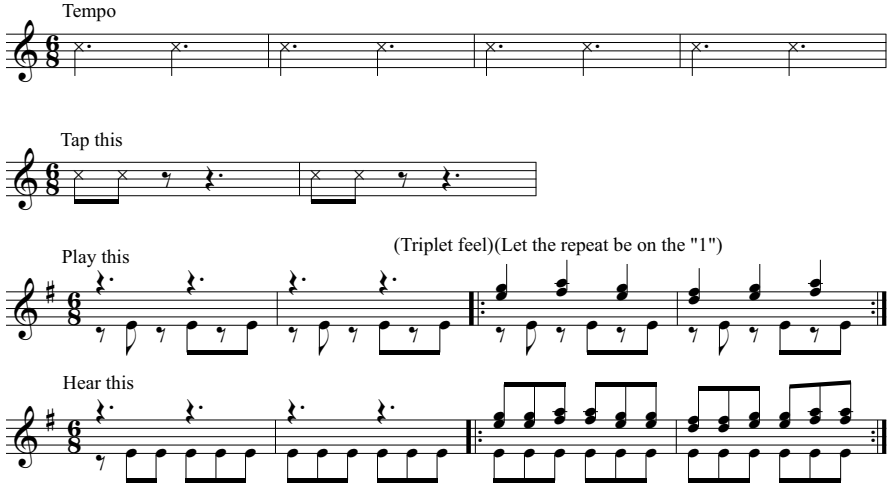
Tap Tempo Technique

"At a Gov't Mule show, if it starts to sound almost like electronica, that's me tapping away at delays," explains Danny. "I tap rhythmic patterns on the delay's tap tempo button against the actual tempo of the song. That's not how you'd normally use tap tempo, but it gives interesting results." Here's how to do it yourself.

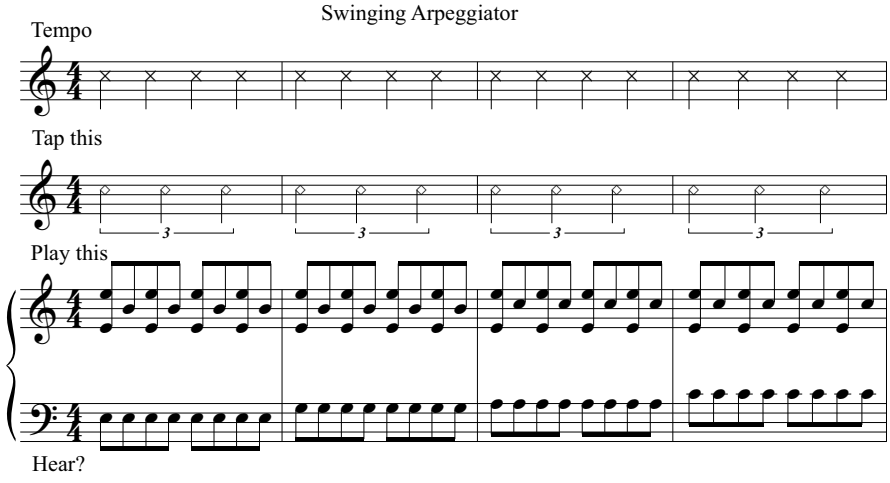
Ex. 1. With a click track or your foot establishing the tempo shown on the first staff, tap the rhythm on the second staff into your delay. Once that's set, play the melody on the third staff, and expect to hear the trippy ascending figure shown on the fourth staff.



Ex. 2. In 6/8 time, do the same as in Ex. 1, tapping the rhythm on the second staff and playing the melody shown on the third. The result is the dense, atmospheric line shown on the fourth staff.



Ex. 3. Get some swing by tapping quarter-note triplets into the delay as shown on the second staff, and playing the figure in straight eighths, on the third and fourth staffs. We'll let you discover the sonic result for yourself.



Audio examples of the above recorded by Danny Louis.

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There were certain artists who would take keyboard sounds and twist them, but in rock it was the guitarists who'd get the psychedelic sounds. So a lot of my inspiration for the Clav is actually from guitar sounds I grew up listening to, whereas with electric pianos, it's people like Joe Zawinul, Herbie Hancock, and Chick Corea.

How do you approach using delays live when it's not just you setting the groove?

Playing in an ensemble, there's a collective interpretation of time going on. That's part of the beauty, and it's what makes the whole larger than the sum of its parts. If you're injecting a rhythmic subdivision, sixteenth-notes or triplets, you have a lot of influence on whether everything flows or not, just as the hi-hat on the drum kit does. With Mule, there's a lot of deliberate push-me-pull-you, a lot of liberty, and a need for precision.

For me, learning to play drums had a lot to do with this. It's not easy to hold the beat during a jam. I'm constantly adjusting on the fly. When I have a shuffle going on for reggae or dub material, or I'm going for a more interpretive feel than triplets, it's imperative to play with good time because not only is the effect itself altering the sound, but so is the *tail* of what you play, whether it's a single repeat or many, or a flange triggered on your attack. Even if you're just triggering a reverse cymbal and you want the *whoosh* at the end to hit on a specific beat, you need to have really good time.

How do you make sure you lock in?

I look at it as reverse syncing. If the band is my "sync track," then it's a human-generated sync track, and if I'm trying to duplicate electronica, or something that mimics a sequencer or arpeggiator, I'm recreating those types of keyboard parts, only with a Clav instead of a synthesizer. It's never going to be as robotic as if it were in sync and everyone else was playing to it.

Do you use these tools and techniques with other groups?

This is pretty specific to Mule. I used to do bar gigs with an Oberheim OBX, an Echoplex, and a little Yamaha P.A. system. Often I'd be playing a more traditional piano or organ sound, but a lot of the time, I'd be doing exactly what I'm doing on Clav now, but with that Echoplex tape delay.

What about slapback echo with vintage keyboards?

There's the classic rockabilly slap, which originally came from running the sound through another tape deck played just off sync. With slapback, the truly psychedelic stuff moves in real time, but if you start with a pitch and play it with a repeat of a certain speed, then slow it down or speed it up as it's happening, it can get wacky as hell and sound like insane cackling or a plane crashing, depending on how you work it.

Can you point us to a couple of good examples of your techniques?

Live shows are where all this effects talk is most relevant, and there are countless shows downloadable at MuleTracks.com. The best example of a Clav through effects on the album *By a Thread* is the final tune "World Wake Up," which I co-wrote with Warren Haynes. The atmospheric mayhem in the first interlude and the chaos throughout the coda were all done with a Clav and Line 6 pedals in one pass, while listening to the track. The delay, while driven to feedback, was used as a musical pitch in the key of the song—or was alternately made atonal and freaky—by adjusting parameters on the fly. k

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WHY KEYBOARDISTS SHOULD DJ

A long time ago, in a galaxy far, far away, there was a music scene that consisted entirely of DJs who's biggest claim to fame was that they had rare vinyl and could beat-match records. It didn't matter whether they could find middle *C* or explain lowpass filtering, they had music you couldn't find anywhere and could play it skillfully. Often, they'd release tracks that were produced by some local keyboard whiz kid and claim these tracks as their own. Now that everyone can buy any track online, no matter how obscure, then use computer-assisted beat-matching tools, the playing field is level—or rather, it's one on which keyboardists and trained musicians have a distinct advantage.

Why should you care? Back when I was strictly a programmer and producer with some well-received remixes under my belt, I asked Josh Gabriel what I needed to do to take my career to the next level. He said, "You need to DJ. That's the only way you'll reach a wider audience and improve your production." To be honest, I ignored his advice for a year. But once I started DJing, doors flew open. No longer was I just the geeky guy with a roomful of synths. I was now the mastermind behind the decks, taking audiences on a new musical journey each weekend and loving every minute of it. With electronic music experiencing its biggest comeback since the mid-'80s synth pop wave, the time to jump into DJing has never been better. Francis Prève

What Kind of DJ?

Now that you've decided to be a DJ, the big question is "What *kind*?" There are three main types: mobile, resident, and artist.

A *mobile* DJ plays weddings, corporate parties, bar mitzvahs—all those events known to keyboardists as "casuals." Before you turn your nose up at this type of work, the top DJs in this field make hundreds and sometimes thousands of dollars per gig spinning "Celebration" and "Baby Got Back" for well-fed inebriates.

In general, a *resident* DJ works the local mainstream club and plays the big *Billboard* hits mixed with the more commercial side of hip-hop. This is a trifle cooler than weddings, but you'll still have to contend with playing music you may or may not like and dealing with drunks who get astonishingly rude if you don't play their requests, not to mention club owners who'll gladly throw you under the bus if you don't consistently pack the dance floor. You'll also need the latest pop hits at your fingertips for every show, so regular homework is involved.

Finally, there's the *artist* DJ. If you're making electronic dance music, this approach makes the most sense. Financially, you'll make a fraction of what the previous two types make when you're starting out, but you'll also be positioning yourself for greater success over the long term. What's more, it's infinitely less demanding than running around playing live shows in a cover band. If you're up for a challenge, you can really set yourself apart from the pack by incorporating keyboarding via a small controller like a Korg NanoKey or Akai LPK25—or a full-size synth if you're so inclined. Again, this is a long-term play, but for many, it's the natural evolution of the keyboardist/producer.

Left:
Avid Torq
Right:
Ableton Live

Platforms

We'll assume you've opted to skip learning CD decks and to rely instead on software tools. Laptop-based DJs have countless options. If you want to "keep it real" with a classic approach, quite a few options rely on a turntable interface. Native Instruments Traktor and Serato are gold standards (arguably, the electronica culture leans Traktor and hip-hop leans Serato), but Avid Torq (shown) has a devout following as well. The caveat is that you'll have to start thinking like an old school DJ, albeit one with computer-assisted beat matching and sound sculpting tools.

The *de facto* standard software for keyboardists-turned-DJs is Ableton Live. It lets you mix and match multiple tracks, vocal parts, loops, and even soft synths you may want to play in real time, so that your performance is far more complex than just "two turntables and a microphone." In addition, you can integrate pretty much any controller on the market. Knobs, faders, keys, buttons, pads . . . everything is fair game.

Controllers and Audio Interfaces

Speaking of controllers, there are countless options available, ranging from Akai's APC40 to Korg's Nano line of USB controllers. The APC40 will get you there in style, with some caveats. First, the APC is physically one of the largest controllers on the market and doesn't include an integrated audio interface. Since so many DJ booths are rather small, squeezing an APC into a space that often already includes a pair of CD players and a mixer can be a claustrophobic proposition.

At the opposite end of the size spectrum, Korg's NanoKontrol and NanoKey have been a part of my touring rig since their introduction. They fit in any gig bag, take up minimal space, and if one breaks, you can get a replacement for around 50 bucks at any Guitar Center and most Best Buy stores. The faders on the NanoKontrol have a very short throw, so you'll need a steady hand when mixing.

Between those two size extremes, there's a lot of really great gear from Novation (the Launchpad), M-Audio, and others, so it's really a matter of doing some research to find what works best for your DJ style and wallet. The same range of possibilities applies to audio interfaces. There are options for pretty much any budget and rig size, so again, research is key. That said, I've been using my Native Instruments Traktor Audio 2 with Ableton Live for two years now, without a single hiccup. If anything happened to it, I'd buy another for a hundred bucks.

Organizing Your Tracks

Keeping your DJ "crate" organized is the key to smooth performances. With DJ software, the process works pretty much the same way as in iTunes, with custom tags and folders being the core approach. With Ableton Live, there's more to consider, so I'll describe my system and you can modify it to suit your needs.

As an artist, I'm constantly shopping for new, innovative tracks on the cutting edge of the techno, minimal, and progressive styles, with a bit of electro thrown in for good measure. I've often said that dance music is "fashion you can hear," and since fashion changes quickly, it's critical to keep everything organized by *when* it was released.

Accordingly, I create a new Ableton Live set every quarter and fill it up with tracks that were released that season. Then, I label the set ("Q1_2011" for example) and save it. Within each set, I color code each track. Red tracks are maximum-energy crowd pleasers, yellow tracks are medium-energy fillers, and purple tracks are vibey, chill-oriented pieces for the very beginning of the night and when the party is winding down.

In addition to color-coding, I create dummy channels to hold the tracks I want at my fingertips at all times. These channels are labeled according to the intros and outros of the tracks they contain, since some tracks begin or end with full musical arrangements and others begin or end with just drums. If you're playing a track that ends with full music or a bass line, it's handy to know this in advance to avoid messy clashing of musical keys.

The channels are labeled as follows: Drum In/Drum Out (short for intro and outro, not input and output), Drum In/Music Out, Music In/Drum Out, and Music In/Music Out. I wish that all producers would craft their tracks with Drum In/Drum Out, because those are by far the easiest to mix, but until that happens, I have to use this system. If you've opted to use Torq or Traktor, you can easily add abbreviations like DIDO and DIMO to your track names for easy reference.

Finally, I collect and save all of the tracks for each set so that it's self-contained, then I store them all in a single folder on my hard drive. This way, when I want to go back and play a classic track, I can

use Live's file browser to find the material quickly and drag it into the set I'm spinning.

Segue Basics

Regardless of what platform you've selected, there are some universal tricks for clean segues (transitions) between tracks. For one, always make sure you know when the music and/or bass (as opposed to just the drums) begins and ends. One of the most ugly mistakes a DJ can make is having clashing key signatures or bass lines during a segue. You can sometimes get around a bass line clash by using a highpass filter or heavy low-cut EQ on the track you're bringing in, but that's a Band-Aid, not a cure. The only real solution is to make sure that the tracks don't clash in the first place. This is why drum intros and outros are so important in dance music.

A product called Mixed In Key actually does a solid job of scanning and detecting the key of each track in your crate, then renaming the title of the track to include the key. When you're mixing with key in mind—a skill that keyboard players coming to the DJ game already have—musical magic happens that wins respect from other DJs as well as the audience.

Another cool trick for Ableton users is to create some custom drum grooves (using MIDI clips and Live's Drum Racks feature) to play over awkward transitions, creating a seamless vibe that makes you stand out from the pack.

Demos and Networking

Back in the day, you'd burn a CD and send it out. Thanks to the Internet, once you've got the tools and have had some time to rehearse your new craft, you can create a 30- to 60-minute demo and post it to SoundCloud.com. You can then direct promoters, club owners, and other potential clients there.

To build a fan base, post a monthly (or even weekly) downloadable mix or podcast on your Facebook page. If you regularly give your fans a free mix for workouts or commutes, they're more likely to come out and hear you spin live. Bands do the same thing with recorded live shows or new tracks, and this strategy helps you build your brand as a DJ *very* quickly.

Don't forget the in-person side of social networking. Find out which clubs are playing the music that's closest to your style and start going out. Don't go up to the owner and diss the current DJ—that's the biggest mistake a newbie can make. Be part of the scene, make friends, and get a feel for the crowd. Then and *only* then, slip a few people a business card with your SoundCloud URL and say you're looking for gigs. Subtle and smooth is the ticket—*no one* wants to be accosted with pushy pitches to play their venue.

So get your act together and put your best foot forward, tastefully. The rest will happen naturally. And if anyone says "You can't call yourself a *disc* jockey—you use a laptop," hit 'em back with this gem: "It stands for *drive* jockey." k

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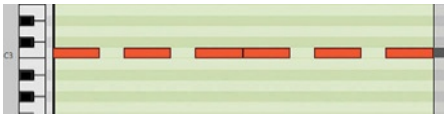
SMACK MY PITCH UP

Calvin Harris is doing it. So are Afrojack, Fedde Le Grand, and Wolfgang Gartner. Heck, I'm even doing it on my current single, "Colossus." What's that? Crazy pitch-swept leads, of course. Make no mistake, the latest fashion in techno and electro is wild sweeps and pitchy envelopes, so it's time to add this technique to your bag of tricks. This month, we'll look at two different approaches to whipping up swoopy leads. One relies on envelopes and the other relies on direct automation of oscillator pitch via extreme settings for your pitch wheel range. Since Reason's Subtractor does both tricks with ease, we'll use that for demo purposes. Here we go! Francis Prève

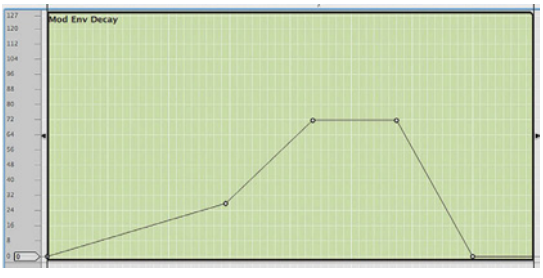
PITCH ENVELOPE METHOD

Step 1.

Initialize your patch and starting from the default settings, change oscillator 1 to a square wave, lower the filter cutoff a bit, and leave everything else basically untouched. Next, assign the Mod Envelope (shown at right) to oscillator 1's pitch and increase its amount to about 40%, making sure to set all of the envelope sliders to zero.



Step 2.

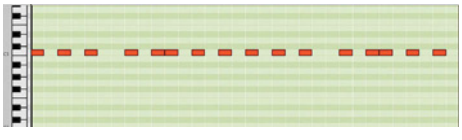


Create a simple rhythmic pattern in Reason (above, left), then create a new automation lane for the Mod Envelope Decay. For experimentation purposes, add a few breakpoints and move them around as the sequence plays (right). You'll be greeted with a sound similar to the main lead in Calvin Harris' "Awooga" and my track, "Colossus."

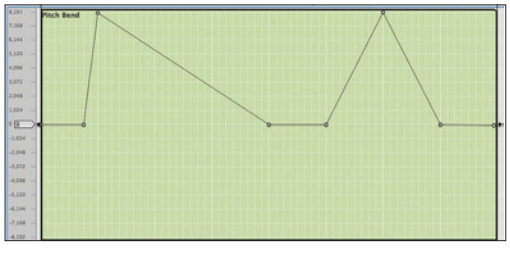
WHEEL METHOD

Step 1.

Again, start with the Reason Subtractor initialized patch. Again, we'll use a single oscillator, only based on a sawtooth wave this time. Open the filter cutoff all the way so you hear all the harmonics. Then, set the pitch bend range parameter to two octaves (24 semitones).



Step 2.



Create another simple repeating pattern (above, left), then create an automation lane for pitch bend. Again, experimentation is key, so add a few breakpoints and move them around as the sequence plays (right). Some positions are just plain wrong, so use your ears. The secret here is to use really extreme shifts that have an almost siren-like quality.

SOUNDCLOUD Step-by-step audio examples.

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If you caught August's column on sidechained gates, there's a third approach for massive swoops. Using the same sawtooth patch described above, add extreme amounts of glide while playing overlapping notes that are several measures long. Next, apply a sidechained gate to the synth and trigger your gate pattern using a synth—as described in that tutorial. k

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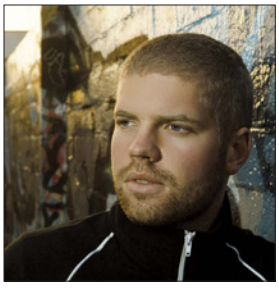
Producers' Roundtable

RHYTHMIC SUPPORT IN ELECTRONIC MUSIC

In previous roundtables, we've discussed the process for developing leads and pad sounds, but what about more subtle rhythmic synth elements, such as stabs and arpeggios? This month, our crack team of experts explores their approach to weaving supporting parts into an arrangement. Have a question for our panel? Email me at fap7info@gmail.com, and you may find it answered by the artists below, and/or the likes of Alan Wilder and Wolfgang Gartner. Francis Prève



MORGAN PAGE

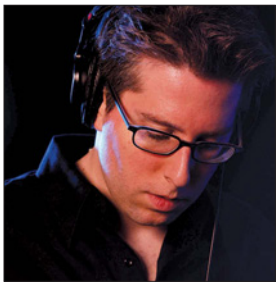
(morgan-page.com)

I use very simple sawtooth arpeggios, composed in two or three layers, with complex treatments. I like to write the chord progression first and then weave an arpeggio and a sub-lead underneath that interact in cool harmonic ways. I like using counterpoint sometimes, too, where one lead goes up while the other goes down. It creates an interesting harmonic tension moving around the scale like that. I like using chord stabs that propel the beat forward, opening up the release and the filter during breakdowns—you hear it a lot, but it definitely works.

BOOM JINX

(boomjinx.com)

I'm a sucker for sub-melodies, supportive melodies, or so-called "answers" to the "call" of the main melody. These have a tendency to create more musical depth. A classical composer taught me never to let these play higher notes than the main melody. The guy drives a Lamborghini, so I took his word for it.



JOSH HARRIS

(myspace.com/seirenproductions)

I enjoy layering and adjusting the presence of the layered elements as the track progresses. Back in the day of hardware sequencers and hardware synths, I used to layer several different keyboards on one MIDI channel to create thick, lush sounds. I apply that same philosophy to the world of virtual synths. It is really effective if you want the chorus to feel bigger or thicker without cluttering up the track with too many different arrangement parts.

RICHARD DINSDALE

(facebook.com/richarddinsdale1)

By learning to recognize the sounds of various waveforms, especially the ones commonly found on synths, such as sawtooth, square, pulse, and triangle waves, you can hear which spaces in the track need support. If you can hear a sound and judge the waveform or combination of waveforms that is most appropriate to reinforce a section, you'll enhance the track greatly. So basically I just like to spend a few hours on getting that sound right, tweaking and adjusting the right waveforms to get that sound to fit the track.

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Roland JUPITER-80

by Stephen Fortner

You probably already know that the Jupiter-80 is one of the most anticipated new keyboards of the year, in part because the classic Jupiter-8 is still one of the most hunted synths in the world and invoking its name was bound to create a buzz. Since the public debut at this year's Frankfurt Musikmesse show, everyone has been wondering exactly how the new Jupiter will handle and sound. I've now been living with one long enough to offer a detailed report.

Hardware

Though "Jupiter" is synonymous with "retro" for many synth enthusiasts, the only thing that's self-consciously retro about the Jupiter-80 is the industrial design: The panel graphics, flat aluminum end blocks, and Jolly Rancher-like rainbow of sound selection buttons are obvious homages to the Jupiter-8. Some people will like the aesthetics (I do) and some won't, but anyone who sees the new Jupe in person will agree that it's built like a tank. The controls and keys themselves are about the only plastic you'll find—all else is thick, burnished metal.

The Korg Kronos' screen graphics may look prettier, but the Jupiter's bright, blocky colors and fewer functions on each page make touchscreen life easier if your fingers are any thicker than a Tolkien elf's. It's not multi-touch, but you can touch-adjust onscreen controls like synth knobs and organ drawbars, and their response is instant and smooth.

The synth-action keyboard is silky, with a feel as the keys hit bottom that I can only describe as "dead in a good way." It senses aftertouch, and unlike most synths, the sensitivity is adjustable in the same system menu where you'll find velocity curves. These keys are *quiet*: Palm wipes cause a little less mechanical noise than on a Yamaha Motif XF (reviewed June '11), and a lot less than on my 76-key Kurzweil PC3.

The Jupiter-80 is not a workstation. It's a performance synth that you can also integrate into your studio thanks to MIDI and audio streaming over USB. You can record audio files to a USB stick or play them for use as backing tracks, but there's no multitrack sequencing, nor does the song player support playback via Standard MIDI files. You can, however, import SMFs into the arpeggiator as patterns.

Organization

The Jupiter-80 (a.k.a. JP-80) is different than most modern synths, which usually power up with a piano sound in single-patch mode. Essentially, it's always in multi mode, and the main level of organization is the Registration, a setup that saves the entire state of the instrument minus a few system settings. The Registration buttons on the front rail beneath the keys (a location familiar to pipe organists) make it easy to change sounds while playing, but a bit *too* easy to do so by accident. Sensibly, the system menu includes a lockout for these buttons.

A Registration has four parts—Upper, Lower, Solo, and Percussion—each assignable to a different key zone. Here's where things get interesting, because the Upper and Lower parts in turn contain up to four Tones (single sound programs), a grouping Roland calls a "Live Set." Each

Specifications

PROS SuperNatural really does work, yielding many of the most expressive and realistic acoustic sounds ever heard in a hardware keyboard. Monster virtual analog synth. Full clonewheel organ built in. Registrations facilitate musical arrangement in an inspiring way. Superb build quality.

CONS Not all SuperNatural sounds are equally stunning. Most SuperNatural acoustic sounds don't let you tweak many deepest-level parameters. No vibrato/chorus effect for organs at this time. More knobs and sliders would be nice.

CONCEPT Live performance synth combining multiple synthesis technologies aimed at absolute realism of every instrument type.
SYNTHESIS TYPES "SuperNatural" comprises multisampling, realtime articulation management, and various types of modeling.
POLYPHONY 256 voices.
MULTITMBRAL PARTS Internally: 10. Playable from external sequencer: 4 (corresponding to main Registration parts).
EFFECTS 8 multi-FX (4 Upper, 4 Lower), 3 reverbs (Upper, Lower, Solo/Percussion), 2 compressor-EQ-delay chains (Solo and Percussion), global 4-band semi-parametric EQ.
WEIGHT 39 lbs.

PRICE List: $3,999
Approx. street: $3,500

rolandus.com

Tone in a Live Set can have its own key zone, independently of those assigned at the part level.

At first this seemed unnecessarily complex—why nest a little multi (the Live Set) inside a big multi (the Registration)? Then, I thought about how orchestras have sections in which the players work closely with each other, and I began to see the logic. Building a string or brass ensemble to work as a cohesive unit in some larger musical context certainly isn't the only use for Live Sets—just an obvious one. Plus, just as a skilled player tailors his or her tone and style to a specific gig, you may want a Tone to behave differently in a section than if you were playing it solo. That's why a slew of parameters are adjustable per Tone but saved at the Live Set level: pitch, vibrato, velocity response, filter and envelope offsets, poly/mono, effects routing, and what MIDI controllers each Tone receives, to name a few. For many of these, you can decide whether the setting defaults to the value saved with the underlying Tone, or overrides it.

The Solo and Percussion Parts contain a single Tone each. Percussion is further divided into Drums/SFX and Manual modes. Drums/SFX accesses more than just drum kits; I often used it to add acoustic or synth bass when the Lower part was doing something more demanding. Manual Percussion reserves the bottom 15 keys for triggering various one-shot hits such as TR-808 drums and Fairlight-esque orchestra stabs. The Solo part is intended for sounds you'd likely play in the topmost range of the keyboard (perhaps monophonically) but you're not restricted to doing so; put a grand piano up here and shift it down three octaves if that floats your boat. Given this flexibility, you could think of the Solo part as simply "supra-Upper" and the Percussion part as "sub-Lower," subject to some limits. For example, you can't assign an organ with full drawbar control to a Solo or Percussion part, because the touchscreen page of drawbars resides at the Live Set level for Upper or Lower parts only. I didn't find this to be any practical hindrance.

You might look at those colorful sound selection buttons above the keys and think, "Am I limited to the sound categories printed on the panel for each part?" No, you're not. Each selection button calls up a main and alternate Live Set (for Upper and Lower parts) or a main and alternate Tone (for Solo and Percussion), and you can set defaults for these in the system menu. While the main sound for a given button *is* limited to things more or less in that category (pianos for the Piano button and so on), you can set a category-spanning range of sounds as the alternate. Also, the "Other" buttons in the Lower, Upper, and Solo sections are similarly inclusive.

Tap any Live Set/Tone button twice, and a sound browser comes up onscreen. With the Upper and Lower parts, the buttons select only Live Sets, not individual Tones. When assigning individual tones *within* a Live Set, you double-tap on the Tone field to bring up another sound browser, then make your selection on the touchscreen. A number of Live Sets have only one Tone active to speed things up when all you want is, say, a nice piano or upright bass.

Honestly, navigating the JP-80 and creating your own Registrations is more complex to read about than to do. A good deal is immediately obvious: Want one of those alternate sounds I talked about? Hit the Alternate button for the desired part. Want to split off a zone on the keyboard? Hit its Split button. The overall paradigm is different but

Fig. 1. Full of knobs and sliders, the Synth Edit screen gives you access to three stackable virtual analog synths (called Partials) while using up only one sound program.

musical—as if Roland intended that you could plop Leonard Bernstein in front of this thing and he'd take to it almost as quickly as Rick Wakeman.

Sound

On previous Roland instruments, "SuperNatural" denoted select sounds that were maximally realistic and rich in articulations that responded to your keyboarding. (Technical point: Any samples used in SuperNatural sounds were and are unlooped.) The goal: Letting you think like a keyboardist but sound like a "native" player of whatever instrument you're emulating. The JP-80 labels *all* of its individual Tones as SuperNatural, suggesting they've upped the game across all instrument types. For the most part, that's true.

SuperNatural Synth. A serious virtual analog synth resides in the JP-80, and at the bottom of the editing hierarchy is a vintage-looking interface called Synth Edit (see Figure 1 above). Rather than cloning the Jupiter-8 signal path, it's set up more like the Gaia SH-01 (reviewed July '10), with three independent, stackable, single-oscillator synths. Each has its own multimode filter, volume and filter envelopes, and two LFOs, one of which is hard-assigned to the modulation paddle. This is a more advanced synth than the Gaia, though. First, it sounds better—more cream, less fizz. Features you won't find in the Gaia include a unison mode that can get quite huge (at the cost of some polyphony), a waveshaper that adds anything from a little grit to a chainsaw buzz, and the option for any oscillator to use either virtual analog waves, noise, or one of 363 PCM samples.

Hiding in Pro Edit view (a simple list of parameters and their values) are an "analog feel" setting and separate highpass filters for each of the three synths. That's cool because the independent highpass filter in the Jupiter-8 was a distinctive aspect of its sound. Another hallmark was that you could affect oscillator pitch with an envelope. The JP-80 covers this with a separate pitch envelope one edit level up—independent per Tone, but saved as part of a Live Set.

Everything I've described, triple synths and all, uses just *one* Tone. With a Live Set, you can multiply that times four, taking advantage of many additional parameters including overall offsets for the filters and envelopes. The sound design possibilities here are so huge it's scary.

SuperNatural Acoustic. Everything that's not the virtual analog synth—grand pianos, vintage keys, and orchestral instruments alike—comes under the SuperNatural Acoustic umbrella. Upright basses are among best I've ever played—all the nuances seemed to fall under my fingers without my thinking about it, showing that the SuperNatural engine is indeed doing its job. The same was true of the solo and ensemble strings: I haven't lost myself in playing for this many hours since Kurzweil released their first orchestral ROM for the K2000.

Acoustic pianos sound so much like Roland's high-end RD-700NX stage piano that I've reposted our March '11 review at keyboardmag.com/october2011 for your perusal. The JP-80 doesn't use the all-modeling technology of the V-Piano, but the same one-two punch of unlooped samples and modeled details as all the other acoustic sounds.

The dedicated rotary buttons on the panel would lead you to think there's a full clonewheel organ inside, and you'd be correct (see Figure 2 on page 52). It uses Roland's latest-generation COSM (Composite Object Sound Modeling) to model individual tonewheels, and sounds just like their best standalone clone, the V-Combo VR-700 (reviewed June '10). So does the Leslie simulation, which resides in one of the multi-effects slots. I thought it sounded a bit electronic at first, but I got much more realism by slowing down the rotor speeds from the factory settings. Oddly, I couldn't find the usual scanner vibrato/chorus (which the VR-700 does have) on the drawbar page, among the effects, or anywhere else. This is a significant omission for organ players, so let's hope Roland adds it in an OS update.

The Jupiter-80 simulates *divisi* playing after a fashion, via a per-Tone toggle (in Live Sets) called "Layer Section." Play a single note, and every Tone you've enabled will voice it in unison. Playing multiple notes allocates the Tone in layer 1 to the highest note, layer 2 to the next note down, and so on. To approximate a string quartet, you'd put violins in layers 1 and 2, viola in layer 3, and cello in layer 4.

This works with most SuperNatural Acoustic (but not synth) sounds. It's not perfect, but it's the only solution I've seen in a hardware synth that lets you direct *divisi* proceedings without deep programming.

Tone Blender

This macro control lets you sweep multiple sound settings for up to four Tones (programs) at once with a single twist of one of the four assignable knobs. Settings are volume and pan, filter cutoff and resonance, an attack/decay/release envelope, and sends for the four effects and global reverb. The white boxes are where you set limits on parameter changes—set the source value higher than the destination, and that parameter will go down when you turn the knob up. The Shuffle function sets random values for everything, within the limits you've set. You get two Blenders: one for the Upper Live Set and one for the Lower.

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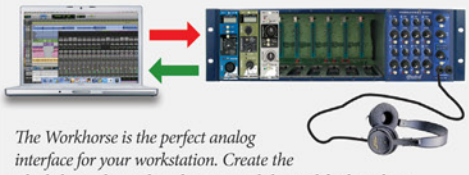
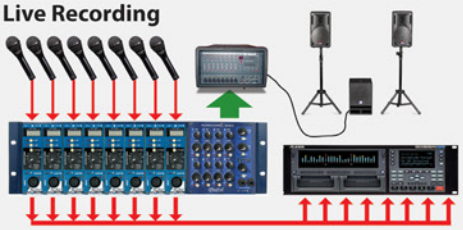


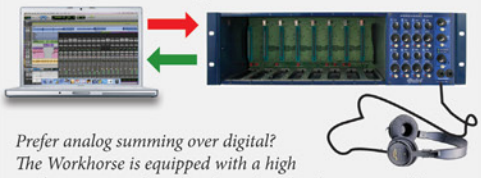
The Workhorse is the perfect analog interface for your workstation. Create the ideal channel strip by selecting modules and feeding them together then audition the mix without latency with your nearfield monitors or via the dual headphone outputs.

Live Recording



Plug in 8 Radial PowerPre™ mic preamps and use the rear-panel D-subs to feed your recorder. Use the XLR outs to feed the PA and the stereo mix buss for headphones and in-ear monitors. Gang two or more Workhorses together for live 24-track recording.

Analog Summing



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Actually, there's an exception: Roland's ARX-03 brass expansion for the Fantom-G let you combine horns and saxes in a six-piece section and gave you more hands-on control over the behavior of each instrument.

On a similar tack, the ARX-01 drums board let you choose drum sizes and materials, and the ARX-02 electric pianos gave you far more physical parameters to play with: bell character, distance of the tine from the pickup, and the like. By contrast, the "Modify" page for the JP-80's electric pianos offers just one truly mechanical tweak: key-off noise. Given that the ARX boards were SuperNatural products and that the Jupiter-80 is "all SuperNatural all the time," I was a bit surprised not to see previous ARX functionality duplicated more fully. Don't get me wrong—the JP-80's electric pianos cover all the bases and kick major butt, and you can get most of the sonic variety of the ARX-02 by auditioning different electric piano presets and exploring all the offsets you can apply at the Live Set level. I just wish the JP-80 let me get my hands as dirty tweaking acoustic Tones as I can on the synth side. In fairness, some of the acoustic sounds—grand pianos, most notably—have more adjustable parameters.

More Features

To oversimplify, "behavior modeling" refers to extra articulation sauce atop the SuperNatural steak. Pitch-bend a trumpet, for example, and you'll hear a glissando of discreet notes rather than a synth bend. Do a two-note trill, and you'll hear the trumpet player "half-valving." Acoustic guitar sounds can automatically simulate strumming when you play a chord, with alternating up and down strums. Saxes can add realistic growl in response to a MIDI controller. And so on. Some of this territory is familiar (like an assignable button switching a guitar sound to harmonics), but a lot of it is new and even stunning—Asian instruments like erhu are especially haunting.

The arpeggiator can affect the Upper or Lower parts or both, and though I didn't find straightforward toggles to make it play only certain Tones in the Live Set, you can sort of do this by planning out your key zones *vis-à-vis* the arpeggiator's octave range. You can import Standard MIDI files to create up to 128 of your own phrases; another 128 factory styles run the gamut from familiar '80s synth fare to instrument-specific phrases such as walking bass lines and string section ostinati.

You can adjust the sensitivity of Roland's assignable D-Beam so that putting another synth above the JP-80 on a keyboard stand won't trigger it. The D-Beam is sort of like a touchless ribbon controller, though that empty space on the front rail to the left of the Registration buttons is just begging for an actual ribbon.

Harmony Intelligence adds voices to your right-hand lead based on your left-hand chords. Among its many algorithms suited to different musical styles, "Big Band" absolutely nailed that Glenn Miller "Moonlight Serenade" sound on a sax section. With synths, I used it to cook up expressively woozy leads that walked midway between Zawinul and Prince.

Demystifying the SuperNatural

"SuperNatural" refers not to a single sound-generation technique, but to the *application* of multiple technologies to do the best possible job on the sound at hand. Roland has posted a tech paper on what's really going on under the hood that's quite informative and, in our evaluation, honest. Get it at jupiter-80.com or at keyboardmag.com/october2011.

Fig. 2. The tonewheel organ and rotary simulation sounds much like Roland's standalone VR-700 keyboard. You can push and pull drawbars right on the touchscreen.

Conclusions

Elsewhere, I've beat it with a stick that the Jupiter-80 was never intended as the return of the Jupiter-8. Rather, it's the Jupiter that Roland founder Ikutaro Kakehashi really wanted to make all along: a synth that does every sort of sound, and connects your fingers *to* those sounds, with absolute realism. Let's sum it up with that goal in mind.

Its virtual analog side sounds *so* good that it's a shame there aren't a few more knobs and sliders taking up the machine's ample panel real estate—though between the Tone Blender and the Synth Edit view, fine-toothed tweaking during performance was far easier than I expected.

On the acoustic side, the SuperNatural engine yields more compelling results with some sounds than with others—I'd rate acoustic and electric piano, Clav, strings, upright bass, and ethnic instruments at the top, brasses and saxes a close second, and guitars third. In terms of managing both intentional articulation switches and the nuances owed simply to the physics of how different acoustic instruments are played, the JP-80 certainly has more going on overall—and requires you to think about it less—than any hardware synth I've yet tried.

There *is* a way in which the Jupiter-80 evokes its famous namesake that even Roland may not realize. The Jupiter-8 had a distinct character from the other polysynths of its day. Some described it as lush or even wet, and they weren't talking about reverb because no synth of that era had it. It was more of an ineffable sense of air and spaciousness. The Jupiter-80 has a similar quality when compared to other well-known multitimbral synths—even to Roland's own Fantom-G line. It's a true *player's* synthesizer with an undeniable personality, but it doesn't impose that personality at the expense of realism unless you want it to. Hasn't that always been the whole point of synthesizers? k

Audio examples.

Videos: Up close with the Jupiter-80.

Learn about SuperNatural pianos in our review of the RD-700NX.

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Spark's main interface (top) closely mirrors the hardware controller (bottom).

Arturia SPARK

by John Krogh

The market for hybrid software/hardware instruments is still very niche, but it's heating up with the recent addition of Spark. This new drum machine packs an impressive production punch for beat makers. And for those who prefer the vintage tones of analog beat boxes, Spark looks to be on the forefront of a new wave of old school. But does it beat the competition?

Overview

Borrowing concepts from Arturia's Analog Experience synths, Spark is a software instrument with a dedicated hardware controller that handles very much like the grooveboxes of the late '90s. Spark's hardware offers physical controls for recording drum patterns in step and real time, basic editing of individual pad sounds, and realtime effects manipulation via the touchpad. The Jog Dial area provides access to banks of pre-programmed patterns, making it easy to find an inspiring idea and get going quickly.

While you can take your ideas from concept to finished grooves directly from the hardware, much of the deeper-level sound and pattern manipulation is accessible from the software, which mirrors the hardware control surface, and provides additional panels that can be expanded to reveal the sound engine's inner workings.

Spark ships with 480 internal sounds arranged into 30 kits, based on styles such as hip-hop, pop, R&B, jazz, dubstep, and so on. The software's sound engine offers sample playback, physical modeling (put to good use on some of the acoustic-type kits), and what Arturia calls True Analog Emulation, or TAE. This is the analog modeling technology found in their "V" soft synths and Analog Experience series. In Spark, TAE is used to model analog drum machines of yore, most notably the Roland TR family (see Figure 1 on page 55).

Sounds

Everyone likes the *idea* of rolling their own patches, but in today's fast-paced world of music production, many musicians want loads of

Fig. 1. Here, you can see the modeled kick drums on offer. Similar choices are available for hi-hats, snares, and so on.

Fig. 2. Spark's top panel is expanded to reveal the pattern and song sequencer. The hi-hat track is further expanded to show velocity–one of many parameters available for automation–on each hit.

fresh, inspiring sounds to work with and re-contextualize immediately. Spark comes with a solid collection of patterns that showcase the library of drum and percussion sounds in a somewhat stripped-down way, which I found made it easier to infuse my own aesthetic into the preset material. There isn't the kind of "busy factor" to the grooves that you'll find on, say, keyboards whose factory patches are intended to catch your ear in a noisy music store.

As for the sounds themselves, Arturia rounded out the sample-based area of the collection with content from noted developers Ueberschall, Modern Beats, and Sonic Reality. We've uploaded a number of audio clips of the included patterns and sounds to our website, which should give you a clearer idea of Spark's sonic foundations.

There's a decided "synthy" flavor to many of the kits, which makes sense given Spark's groovebox stylings. Even the acoustic kits have a mechanical quality that evokes memories of my favorite ROM-based drum machines. That said, I do wish there were more kits that layered multiple samples in order to create composite sounds—the kind of thing you'd want for modern hip-hop, R&B, downtempo, and other heavily sample-based styles. Yes, these styles are represented in the library, but there's not a lot to work with. In fact, Spark's total of 30 kits and 480 individual sounds seems slim compared to some of the competition. Fortunately, this is easily remedied—you can add your own samples (yes!), and Arturia is already offering add-on sound libraries.

Hardware Controller

Spark's hardware control surface oozes class and coolness. The controls are, for the most part, easy to work with. Featuring a metal top panel, the build quality gave me the sense that I could pound away without ever worrying about damage. The endless rotary encoders spread out across the top feel appropriately firm and operate with a smooth resistance that makes it easy to dial in precise parameter settings. This thing feels like an *instrument*, not just a controller.

Patterns can be entered in step fashion from the smaller pads along the top, or recorded in real time by playing the larger pads along the bottom. The center section is festooned with various controls, some hardwired to specific functions (aux sends, pan, shuffle, etc.), and others software-assignable to useful parameters, such as drum pitch, decay, and filter cutoff. Some detractors have criticized the horizontal row of Spark's pads and said that a four-by-four, MPC-like grid would allow for more pads. This is true, but I didn't find eight pads arranged horizontally to be a limitation. In fact, I actually preferred this because it forced me to concentrate on the foundation of my grooves—kick, snare, and hi-hat.

The hardware can be powered via USB or an AC adapter (not included). A dedicated MIDI input and output are onboard, a rarity on many controllers these days. These ports may not get much use in a totally software-based studio, but since Spark can serve as a programmable MIDI controller, they're a plus for those of us with larger setups.

There's no audio interfacing on the hardware. Having audio I/O would undoubtedly add cost, but I think there's a missed opportunity here: For live performance, I could see having a setup based solely around a laptop and Spark. At the very least, a stereo headphone output would have been nice.

The X/Y touchpad is a fun addition that can be used for one of three realtime performance tweaks: filter sweeps, slicing (similar to

Specifications

PROS Fun and inspiring. Employs analog synthesis and physical modeling in addition to sample playback. Musically useful sounds. Solid build quality.

CONS Some functions could be better implemented for easier operation. Slim sound content compared to the competition. No choice of velocity curves.

CONCEPT Software drum machine with dedicated hardware controller.
FORMATS AU, RTAS, VST, and standalone mode under ASIO or CoreAudio.
SYSTEM REQUIREMENTS *Mac:* OS 10.5 or higher; *Windows:* XP, Vista, or 7. *Both:* 2GB RAM, 2GHz processor, 2GB free hard disk space.

PRICE List: $599
Approx. street: $550

arturia.com

Fig. 3. Spark's bottom panel provides the Library view, in which you can drag-and-drop individual hits onto the virtual pads to create new kits. This is also where you assign patterns to the buttons surrounding the Jog Dial.

Ableton Live's Beat Repeat), and roll (similar to the Akai MPC's drum roll function). In practice, these three modes are effective for adding interest to an otherwise repetitive groove.

Software Instrument

Spark's onscreen interface mirrors the hardware, but the top and bottom panels that can be expanded from the main interface add a lot more control. Patterns and songs can be further edited and massaged from the top panel (see Figure 2 on page 55), which will be familiar to anyone who's worked with pattern sequencers. Each pattern can have up to 64 steps, complete with automation for pad-specific parameters. Things you can automate include velocity, attack, decay, aux sends, and more; none of this detailed editing is accessible from the hardware alone.

Patterns and songs can be imported and exported as MIDI and REX files, or exported as audio for direct use in another application. The processes for this are somewhat hidden, though—you do it from the bottom panel by entering Edit mode, where you'll then find the Import and Export options. This could be made more intuitive by adding these commands directly from Spark's File menu or from the Pattern/Song area.

The bottom panel also lets you access Spark's virtual mixer, which includes discrete channels for each pad plus aux returns and a master fader. Two insert effects can be added per channel, with choices of "crush," compression, EQ, distortion, phaser, delay, and chorus. Reverb and delay are hardwired to auxiliary sends 1 and 2, respectively—a sensible choice for conserving CPU resources.

Studio and Library tabs are also in the bottom panel. Kit sounds are selected and edited from the Studio area, which is logically arranged and easy to navigate. The Library lets you browse the included content in "cover flow" view, so you can flip through your collection to find what you're after (see Figure 3 at left). It's here that you can also populate and arrange patterns into banks, which can be recalled from the Jog Dial. As a handy shortcut, individual drum sounds and complete patterns can be dragged-and-dropped to customize your setup quickly.

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In Use

I put Spark through its paces both as a standalone beat-making station and as a production tool within Logic. Throughout the review period, Spark ran flawlessly without so much as a hiccup.

I found the pads to be very musical in their response, especially at lower to middle velocities. When compared to my other two controllers that have drum pads (a Korg PadKontrol and an M-Audio Axiom Pro), Spark more faithfully captured subtle differences of dynamics. However, when I hit the pads hard, it seemed like the samples didn't quite sound loud enough—as though they weren't generating the maximum MIDI velocity of 127. Attempting to adjust the response, I found that you can't set different velocity curves (nor minimum and maximum "boundary" values) on a per-pad basis or even for the group of pads as a whole. While you can calibrate the pads (essentially teaching Spark how hard you play), this is only configurable when the unit is in MIDI Control Center Mode, and isn't really close to the ability to set specific velocity responses. Editor Stephen Fortner tested a separate unit and didn't have the same loudness problem with the pads.

I also found that, despite Spark having a lot of hands-on control, I still had to use the computer for things that would be better handled from the hardware. At press time, you could only turn the metronome on or off from the software, though Arturia promises a hardware shortcut in OS version 1.13, which will likely be downloadable by the time you read this. The velocity issue could also be addressed in a future update, and to be fair, we're talking about a version 1.0 release. Given my experience with other Arturia instruments, I expect Spark will continue to grow and improve.

Conclusions

There's an immediacy to Spark that I don't find with software-only virtual instruments. When working with most such VIs, the best you can hope for is that they offer a template for the particular MIDI controller in your studio—or that your controller has a template or automatic mapping abilities. At worst, you're forced to "MIDI learn" each knob, button, slider, and pad. That process is counter-productive to creativity, to say the least.

Spark, by contrast, gives me the inspiration factor of dedicated hardware. Its physical controls are automatically tied to parameters that make musical sense, so it's easy to get into a creative space and get down to making music. In today's world of software-based studios, Spark is a refreshing take on making beats, and despite a currently slim library of content and some "1.0" software oddities, it's an impressive platform that manages to put the fun back in musicmaking. k

Audio examples.

Video: Spark at Winter NAMM 2011.

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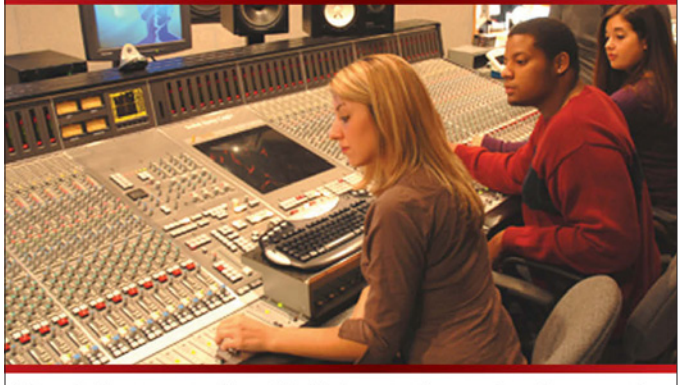

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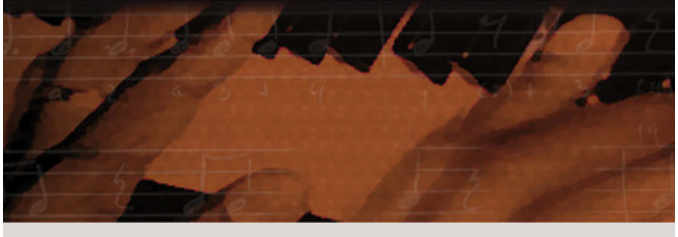

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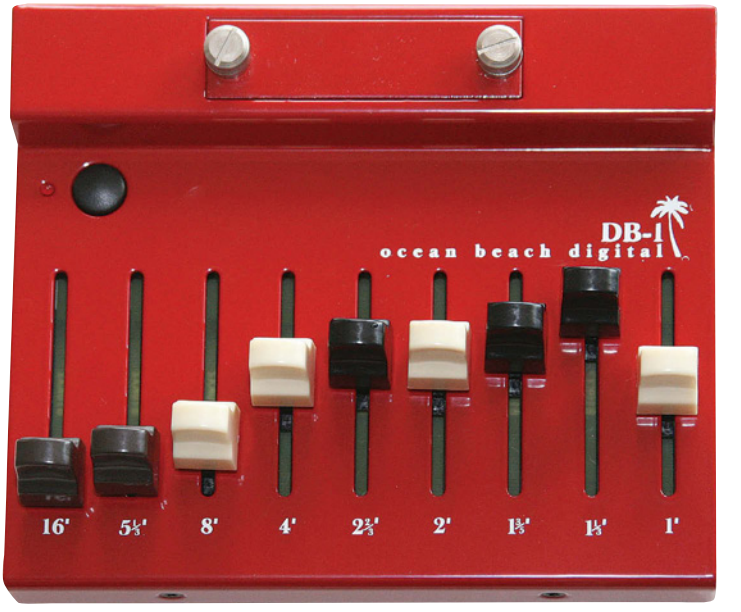

Ocean Beach Digital DB-1 SERIES II

by Jon Regen

Getting a great Hammond organ sound has never been easier, with a myriad of capable hardware and software clones available from a variety of manufacturers. Nord has been a major player for years, with its Electro, Stage, and C1/C2 lines, but while these instruments faithfully model the *sound* of the B-3 organ, their panel design relies on rows of pushbuttons instead of physical drawbars. They're usable, but still, grabbing a handful of drawbars is what many keyboardists miss, and what Ocean Beach Digital puts back with their new DB-1 Series II.

Compact and rugged, the DB-1 Series II sat still enough on the upper left of my Electro 3 on its rubber feet, but if you're a pounding player, get some industrial Velcro at a hardware or electronics store to secure it more firmly. Compact (73-key) and 76-key Stage models don't have quite enough real estate in their upper left corners, so Ocean Beach is exploring a fix (presumably some type of mount) for this. The DB-1 draws power either directly from the Nord's MIDI port or a nine-volt battery (not included). Since the voltage on the MIDI bus can vary depending on your setup, we recommend battery power—the DB-1 draws so little current that months of gigs will go by before you need a new battery.

A row of DIP switches in the battery compartment lets you configure the DB-1 for whatever Nord you have. My unit came set for the Electro, so I was up and running in minutes. It's important to refer to the well-written manual to ensure setup with your gear goes smoothly via the DIP switches and related controls. The auxiliary MIDI ports are helpful if your rig includes a separate MIDI keyboard for the lower manual and/or an external sound module, and a large, round button can (among other things) switch the drawbars between controlling the upper and lower manuals.

At first glance, the DB-1 Series II does indeed appear to be a set of vintage drawbars in a modern enclosure. Closer inspection reveals some differences. First of all, the drawbars don't have the familiar 1–8 numbers that denote their relative volumes. This isn't a dealbreaker, as your Nord's vertical LED bars *do* display the levels, and respond to DB-1 movements instantly.

The slight clicky resistance of real Hammond drawbars is missing on the DB-1, whose controls are more like smooth faders with a drawbar cap. Nevertheless, having those familiar brown, black, and white tabs made me play in ways I haven't done in years on my Nord. The DB-1 also includes an auto-sync feature that ensures any new program you call up will match the physical drawbar positions. This is useful if, for example, you want to switch between clean and overdriven organ sounds, but maintain manual control of the drawbar registrations.

There's a lot to like about the DB-1 Series II. It's small, rugged, and affordable, and it greatly enhances the tactile experience of playing organ on your Nord. It doesn't capture the exact feel of a real set of Hammond drawbars, but it's a lot more authentic than using the Nord pushbuttons or MIDI faders from some other device. Good stuff! k

Specifications

PROS Drawbar caps have same look and spacing as those on a real B-3. Light, small-footprint design is gig-friendly. Supports entire Nord electro-mechanical family. Affordable.

CONS No level numbers (1–8) on drawbars. Totally clickless drawbar movement is not authentic. Only controls one organ manual on Nord Stage series at present.

CONCEPT Drawbar controller for Nord keyboards.
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Left: **Home screen.** *Top right:* **Editing samples.** *Bottom right:* **Page R sequencer.**

Mobile App of the Month

Fairlight Instruments FAIRLIGHT PRO

by Francis Prève

The Fairlight CMI debuted in 1980 as the first commercially available sampler, and throughout the '80s, dominated the records of anyone who could afford one. A basic unit cost $25,000, with later and expanded models increasing in price. Since only 300 were made, collectors still seek out working systems. Can an iPad app really duplicate the CMI magic? Let's find out.

Touch the retro-looking on/off knob, and a graphic of a floppy disk appears, followed by a brief burst of Fairlight music. Only then can you begin playing. Fairlights were amazingly intuitive in their time, but today, the UI comes off like the Son of DOS, so if you're unfamiliar with the original, prepare yourself for a bit of manual reading and YouTube-watching to get the hang of it.

There are three levels of interaction: sampling, creating instruments, and sequencing. In addition, the entire Series IIx sound library and part of the Series III library come with the Pro version. Cruising through the more than 500 presets is a traipse down new wave memory lane. There's a Depeche Mode sound here, a Thomas Dolby patch there, an ABC stab over there. It's astonishing how many signature '80s sounds were Fairlight factory patches. If you don't need user sampling and sequencing, you can snag the basic Player app for $9.99 and get the whole Series IIx library.

Sampling is a breeze. You can import AIFF or WAV audio files as instruments, or record your own sounds through the iPad mic or compatible audio hardware. I recommend recording into the app. Sampling in the original Fairlight added a teeny bit of aliasing that gave it an extremely distinctive sound. It's like hearing everything through a slight mist of mercury vapor—there's an airy quality that's hard to describe but pleasant to the ear.

Once you've sampled your sound, there's not much you can do except edit the start and end points, add looping, and adjust the attack and release of the volume envelope. You don't get filters, LFOs, matrix modulation, or effects, but that's fine with me. After all, it's a Fairlight.

The Page R sequencer paved the way for how we now compose electronic music, and is faithfully duplicated here. Everything is realtime and quantized, much like a classic drum machine. Just choose a note length and tap in your part using one of the instruments. Each track is monophonic, but again, that's part of the app's charm. The limitations force you to think differently about composition, which can open vistas of creativity for the open-minded.

Both the Player and Pro apps support CoreMIDI, so iPad interfaces (*e.g.*, IK iRig MIDI, Line 6 MIDI Mobilizer, or Akai SynthStation) mean you can do a lot more than noodle on the subway—if you have an iPad, you have a Fairlight in your studio! The apps also work with the iPhone and iPod Touch if you can stand some serious squinting at all the stuff onscreen.

Extended use of our review version (1.1) uncovered two gremlins we hope get corrected in a future update. First, there's audible glitching in sequences if you let them run long enough. Second, when assigning sounds in Instrument Edit mode, a different sound than what's shown onscreen will sometimes (but not consistently) trigger. Leaving the page and returning fixes this.

Overall, we're in love with Fairlight Pro. It's a slice of synth history that fits in your backpack. Birds versus pigs? Video chat? Pshaw. For keyboardists with a taste for the '80s, *this* is the killer app for iOS. k

Specifications

PROS All the sounds and features of the Fairlight CMI Series IIx sampling workstation. CoreMIDI compatible. Records samples and imports audio files. Works with iPhone, iPod Touch, and iPad.

CONS It's *so* true to the original that every time you load a sound , you hear brief "disk drive" chatter before you can play.

PRICE $49.99 at Apple App Store

fairlightinstruments.com.au

First look at the app and the CMI 30th anniversary hardware.

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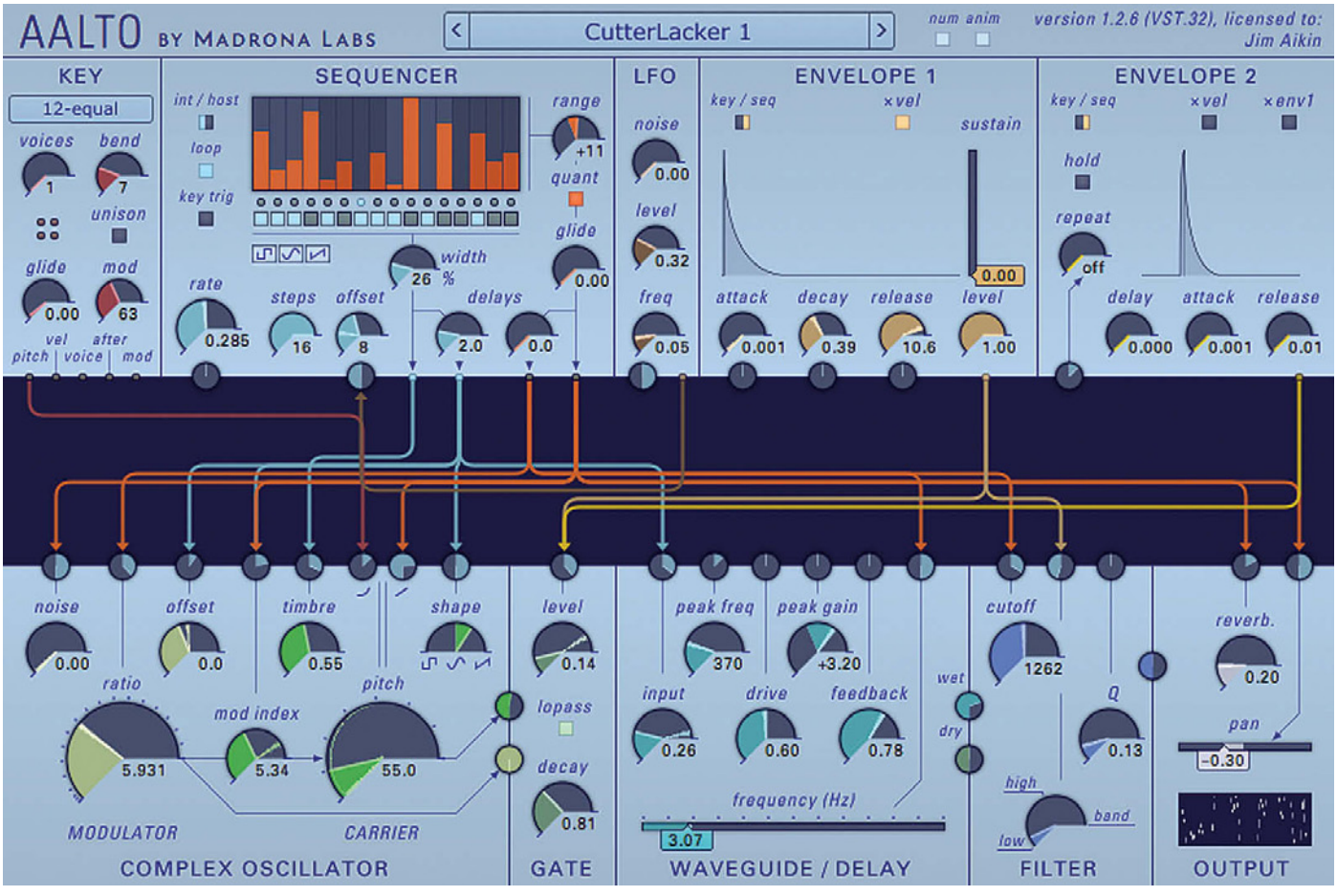

Madrona Labs
AALTO

by Jim Aikin

If your music depends on pleasant, mellow sounds, skip this article. You *don't* want to know about Aalto! This affordable but powerful plug-in is all about rude, aggressive, metallic tones. Some of the factory presets are just plain out of control. As a diehard modular junkie, I'm happiest when I have a rack full of oscillators and processors at my command, so I was put off at first by Aalto's modest lineup of modules. Before I knew what hit me, I was designing new presets and saving them.

Overview

Aalto's design packs more than a few surprises. In part it seems to have been inspired by Don Buchla's modular synths. Across the top are five modules that serve as sources for control signals—Key, Sequencer, LFO, and Envelopes 1 and 2. Across the bottom are five audio modules—Complex Oscillator, Gate, Waveguide/Delay, Filter, and Output. The dark band along the middle is the patching matrix. You can mouse-drag cables from any outlet in the upper row to any of the little dials, which are inlets and depth controls for the control signals.

There are inlets in both the control modules and the audio modules, and multiple cables can be attached to both inlets and outlets, so the patching possibilities are vast. However, there's no way to modulate the depth amounts themselves using yet another signal. You can, however, automate them in your host.

Double-clicking these small knobs zeros them, which is a great help. Even better: Image-Line FL Studio displays Aalto's changing knob values in real time in its own parameter readout. Sweet! On the flipside, Aalto is not compatible with FL Studio's implementation of MIDI controller data. It responds to note messages just fine, but pitch-bend doesn't work, and response to the modulation wheel and aftertouch is very slow. The same controller inputs worked smoothly when Aalto was running in Ableton Live, however.

Aalto is something of a CPU hog, and has only four-note polyphony. If you need big chords, you can run two instances, but you may end

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up freezing tracks to free up your CPU. Aalto's larger knobs are also animated meters, which helps you see what the signal is doing at that point in the patch—think of a tiny oscilloscope warped to fit the knob.

Modules

Time for an old-school *Keyboard* tweakhead review. Starting at the upper left, the Key module has outlets for pitch, velocity, voice number, aftertouch, and one MIDI control change message of your choice. Thanks to the voice number outlet, the four voices in a drone patch don't have to sound alike.

The Sequencer has 16 sliders. Below each slider is a gate on/off button for setting up rhythms in the envelope generators. Both the slider row and the gates have immediate and delayed outputs, and the delays can be set from half a step to eight steps, so complex "chase-me" sequences are easy to set up. Envelope 1 responds to the non-delayed gate and Envelope 2 to the delayed gate. The gate output can also run the Gate module directly, freeing up the envelopes. Sequences can have fewer than 16 steps if desired.

The Sequencer can run in looping or one-shot mode. The sliders' output can be quantized to play in equal-tempered half-steps, and the gate width can be adjusted. Less obvious, but just as important, the sequencer is polyphonic: Each of the four voices has its own sequence. While the sequence is the same for each voice in a given patch, the sequences don't have to run in unison.

The LFO outputs a sine wave, which can be crossfaded with a noise source. There's a patching input for controlling the frequency. When the noise source is used by itself, the frequency control lowpass-filters the noise—handy for gargling effects. There's no patching input for amplitude, so controlling vibrato depth from the mod wheel is tricky, but I found two ways to do it by patching, at the cost of making other features unavailable.

The first envelope is a standard ADSR with optional velocity control of the output level. The second envelope is simpler—or is it? It's a delay/attack/release type with a switchable hold. It can also be set to repeat, turning it into a separate LFO. The only modulation input is for the repeat rate.

Turning to the bottom row, the Complex Oscillator has tone controls for waveshape (adjustable from square through sine to saw), timbre (which adds overtones in an intelligent way, without aliasing), and modulation index (for controlling the FM carrier from the modulator). The timbre knob affects sine waves most strongly, but has less effect as the waveshape knob tilts toward saw or square. The modulator has its own output, so it can also generate a sub-octave or separate overtone.

The Gate is almost like a VCA, but not quite. It's positioned before the Waveguide and Filter, so the Waveguide can ring out, producing a tone long after the gated note you played from the keyboard has stopped. This is not a problem—it's an effect, and a cool one. The gate can be left open in the absence of an envelope input for drone patches.

If the "lopass" button is clicked, the Gate also functions as a simple but fat lowpass filter. The smoothing function on the release turned out to be an emulation of the Vactrol opto-electric gain control found in Buchla synth modules. This is useful when the Gate is run from the Sequencer, as it can produce a short release segment even when no envelope generator is patched to the input. The Vactrol emulation also has a unique character that's ideal for glitchy, percussive sounds.

The Waveguide/Delay is the least conventional module. The frequency of the delay loop can be set from 0.86Hz clear up to 3,520Hz, and can be modulated. Feedback and overdrive are included, so you can do anything from standard echoes and vibrato to pitched resonator effects. Runaway feedback is not just a danger here—it's a temptation. A single band of EQ is in the delay feedback loop, for pulling out resonances. And every one of these features can be controlled via patch cords. There's no sync of the delay time to the host, nor to the internal step sequencer, but you can adjust it manually and get what's effectively a synced sound.

The filter input is a mix of the oscillator/gate signal and the waveguide signal. There's no patching control of this mix, but you can automate it in your host. The state-variable filter is continuously adjustable from lowpass to highpass to bandpass, and the response can be patch-controlled, as can the cutoff and resonance. The filter cutoff has only one modulation input, which limits your ability to apply an envelope while tracking the keyboard. You can patch both the keyboard pitch and the envelope to the cutoff input, but they'll always have the same depth, because there's only one input amount knob.

Last is the Output module, which features a decent-sounding reverb with a wet/dry knob. The panner in this module is a handy place to patch the voice number output of the Key module. Switch on unison mode, and the four voices will be panned to different locations.

Conclusions

Aalto is deceptively simple and seriously addictive. If you're scoring sci-fi soundtracks, it may be your next go-to soft synth. For rich string pads and realistic electric pianos, look elsewhere. Once I understood its more arcane features, patching turned out to be great fun. The sounds I programmed were exotic and rather startling. Aalto is not going to set the synth world on fire, but it might give your listeners a serious anxiety attack—in a good way. k

Specifications

PROS Exotic sounds and unusual synthesis features. Highly patchable. Nearly all parameters can be automated in your host.

CONS Single-oscillator voice. Limited polyphony. No MIDI learn.

CONCEPT Patchable virtual modular synth with no hidden features–what you see is what you get.

SYNTHESIS TYPE FM plus subtractive. Carrier oscillator has variable waveshape for saw and square tones.

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The true story behind the #1 method by **David-Lucas Burge**

IT ALL STARTED *when I was in ninth grade as a sort of teenage rivalry . . .*

I'd slave at the piano for five hours daily. Linda practiced far less. Yet somehow she always shined as the star performer at our school. It was frustrating.

What does she have that I don't? I'd wonder.

Linda's best friend, Sheryl, bragged on and on to me, adding more fuel to my fire.

"*You* could never be as good as *Linda*," she would taunt. "*Linda's* got *Perfect Pitch*."

"What's Perfect Pitch?" I asked.

Sheryl gloated about Linda's uncanny abilities: how she could name *exact notes and chords*—all BY EAR; how she could sing any tone—*from memory alone*; how she could play songs—after just *hearing* them; the list went on and on . . .

My heart sank. *Her EAR is the secret to her success* I thought. How could I ever hope to compete with her?

But it bothered me. Did she *really* have Perfect Pitch? How could she know notes and chords just by *hearing* them? It seemed impossible.

Finally I couldn't stand it anymore. So one day I marched right up to Linda and asked her point-blank if she had Perfect Pitch.

"Yes," she nodded aloofly.

But Perfect Pitch was too good to believe. I rudely pressed, "*Can I test you sometime?*"

"OK," she replied.

Now she would eat her words . . .

My plot was ingeniously simple . . .

When Linda least suspected, I walked right up and challenged her to name tones for me—*by ear.*

I made her stand so she could not see the piano keyboard. I made sure other classmates could not help her. I set up everything perfectly so I could expose her Perfect Pitch claims as a ridiculous joke.

With silent apprehension, I selected a tone to play. (She'll *never* guess F♯, I thought.)

I had barely touched the key.

"F♯," she said. I was astonished.

I played another tone.

"C," she announced, not stopping to think.

Frantically, I played more tones, skipping here and there all over the keyboard. But somehow she knew the pitch each time. She was AMAZING.

"Sing an E♭," I demanded, determined to mess her up. She sang a tone. I checked her on the keyboard—and she was right on!

Now I started to boil. I called out more tones, trying hard to make them increasingly difficult. But she sang each note perfectly on pitch.

I was totally boggled. "*How in the world do you do it?*" I blurted.

"I don't know," she sighed. And that was all I could get out of her!

"How in the world do you do it?" I blurted. I was totally boggled. (age 14, 9th grade)

The dazzle of Perfect Pitch hit me like a ton of bricks. I was dizzy with disbelief. Yet from then on, I knew that Perfect Pitch was real.

I couldn't figure it out . . .

"How does she DO it?" I kept asking myself. On the other hand, why can't *everyone* recognize and sing tones by ear?

Then it dawned on me. People call themselves *musicians,* yet they can't tell a C from a C♯? Or A major from F major?! That's as strange as a portrait painter who can't name the colors of paint on his palette. It all seemed so odd and contradictory.

Humiliated and puzzled, I went home to work on this problem. At age 14, this was a hard nut to crack.

You can be sure I tried it out for myself. With a little sweet-talking, I got my three brothers and two sisters to play piano tones for me—so I could try to name them by ear. But it always turned into a messy guessing game I just couldn't win.

Day after day I tried to learn those freaking tones. I would hammer a note *over* and *over* to make it stick in my head. But hours later I would remember it a half step flat. No matter how hard I tried, I couldn't recognize or remember any of the tones by ear. They all sounded the same after awhile; how were you supposed to know which was which—just by *listening?*

I would have done anything to have an ear like Linda. But now I realized it was way beyond my reach. So after weeks of work, I finally gave up.

Then it happened . . .

It was like a miracle . . . a twist of fate . . . like finding the lost Holy Grail . . .

Once I stopped *straining* my ear, I started to listen NATURALLY. Then the simple secret to Perfect Pitch jumped right into my lap.

Curiously, I began to notice faint "colors" within the tones. Not *visual* colors, but colors of *pitch,* colors of

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sound. They had always been there. But this was the first time I had ever really "let go"—and *listened*—to discover these subtle differences.

Soon—to my own disbelief—*I too could name the tones by ear!* It was simple. I could hear how F♯ sounds one way, while B♭ has a *totally different sound*—sort of like "hearing" red and blue!

The realization struck me: THIS IS PERFECT PITCH! This is how Bach, Beethoven, and Mozart could mentally hear their masterpieces—and know tones, chords, and keys—all by ear!

It was almost childish—I felt sure that *anyone* could unlock their own Perfect Pitch with this simple secret of "Color Hearing."

Bursting with excitement, I told my best friend, Ann (a flutist).

She *laughed* at me. "You have to be *born* with Perfect Pitch," she asserted. "You can't *develop* it."

"You don't understand how Perfect Pitch works," I countered. I sat her down and showed her how to listen. Timidly, she confessed that she too could hear the pitch colors. With this jump start, Ann soon realized she also had gained Perfect Pitch.

We became instant celebrities. Classmates loved to call out tones for us to magically sing from thin air. They played chords for us to name by ear. They quizzed us on what key a song was in.

Everyone was fascinated with our "supernatural" powers, yet to Ann and me, it was just normal.

Way back then, I never dreamed I would later cause such a stir in the academic world. But when I entered college and started to explain my discoveries, professors *laughed* at me.

"You must be *born* with Perfect Pitch," they'd declare. "You can't *develop* it!"

I would always listen politely. Then I'd reveal the simple secret—*so they could hear it for themselves.*

You'd be surprised how fast they changed their tune!

In college, my so-called "perfect ear" allowed me to skip over two required music theory courses. Perfect Pitch made everything easier—my abilities to perform, compose, arrange, transpose, improvise, and even sight-read (because—without looking at the keyboard—you know you're playing the correct tones).

And because my ears were open, music sounded richer. I learned that music is truly a HEARING art.

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Whatever happened with Linda?

Oh, yes . . . flashback to my senior year of high school.

I was nearly 18. In these three-and-a-half years with Perfect Pitch, my piano teacher insisted I had made ten years of progress. And I had. But my youthful ambition wasn't satisfied. I needed one more thing: *to beat Linda.*

Now was my *final chance.*

The University of Delaware hosts a music festival each spring, complete with judges and awards. To my horror, they scheduled me that year as the *grand finale.*

The fated day arrived. Linda gave her usual sterling performance. She would be tough to match, let alone surpass. But my turn finally came, and I went for it.

Slinking to the stage, I sat down and played my heart out with selections from Beethoven, Chopin, and Ravel. The applause was overwhelming.

Later, I scoured the wall for our grades. Linda received an A, no surprise. Then what to my wondering eyes should appear: my own score: an A+.

Sweet victory was music to my ears, mine at last! —D.L.B.

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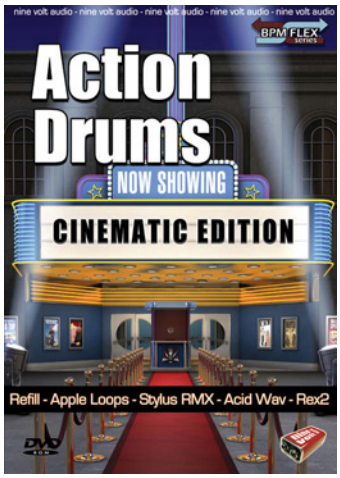

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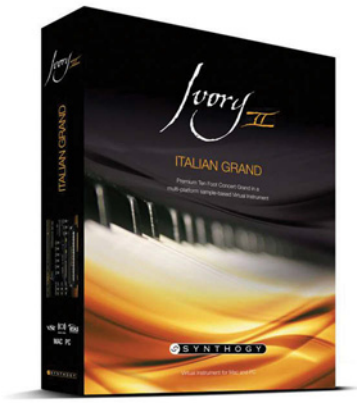

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MOONS OF JUPITER

by Stephen Fortner

We've heard from some synth buffs who feel disappointed—betrayed, even—that the Jupiter-80 (see page 48) didn't turn out to be an analog-focused machine covered in knobs and sliders. We feel your pain—how *dare* Roland take a name they came up with in 1981 for a keyboard designed to make the widest possible range of sounds and slap it on a new keyboard designed to make . . . the widest possible range of sounds? Next, they'll release a karaoke jukebox called the TR-8008 at NAMM 2012, causing the world to end right on the Mayan schedule.

The good news is, any one of the synths below might already have been the second coming you were hoping for. So if it's throwback and/or knobs you want, grab one and don't worry about the apocalypse—after all, you've made it clear that you're skeptical of the SuperNatural. k

SYNTH	Alesis Andromeda A6	Roland V-Synth GT	Dave Smith Prophet '08	Arturia Jupiter-8V
WHY IT'S LIKE THE ORIGINAL JUPITER-8	• Real analog • Tons of realtime control • Sounds huge • Good luck finding one	• Roland's flagship "synthy" synth • Bling • Dual-tone structure • Killer analog sounds (albeit modeled)	• Real analog • Eight voices • Controls galore • Dual structure for splits and layers • Iconic name	• Soft synth based on the original • Looks like it • Sounds like it, thanks to Arturia's Total Analog Emulation
WHY IT'S COOLER THAN THE ORIGINAL JUPITER-8	• Has 16 voices, 16 parts, ribbon controller, and aftertouch • Arguably sounds even more huge • Cool editing graphics follow your knob moves	• VariPhrase time and pitch stretching • Color touchscreen • Variable signal path • Makes great standalone vocoder	• Real analog you can buy new • Stable and reliable • Relatively affordable • Dave Smith himself stands behind it	• Modulation and sequencing not found on the real thing • Fully automatable in your DAW • Same sound available in Analog Experience and Origin lines
POPULAR WITH	Prog rock shredders	Sidemen on tour with pop stars	EDM producers	In-the-box composers
WHAT'S IN A NAME?	Alesis liked the planet theme, but since Neptune is too much like Triton and "The sound of Uranus" was a non-starter, they went with a whole galaxy.	V is for virtual. And victory. And lizards from outer space wearing human skin. And a globetrotting mystery woman with a glass eye. Neato.	If you'd opted for the Jupiter's competition in the early '80s, you might have bought a Prophet. You can again. How retro is *that*?	In this case, admiration and homage are what's in the name–and the end product.

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